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Agricultural College
of Utah

BULLETIN



General Catalogue

1928-29



THIRTY-NINTH YEAR

With List of Students for 1927-1928

Published by the College

JULY, 1928

LOGAN, UTAH

1928	1929	1930
JULY	JANUARY	JANUARY
S M T W T F S	S M T W T F S	S M T W T F S
1 2 3 4 5 6 7	6 7 8 9 10 11 12	5 6 7 8 9 10 11
8 9 10 11 12 13 14	13 14 15 16 17 18 19	12 13 14 15 16 17 18
15 16 17 18 19 20 21	20 21 22 23 24 25 26	19 20 21 22 23 24
22 23 24 25 26 27 28	27 28 29 30 31	26 27 28 29 30 31
29 30 31		
AUGUST	FEBRUARY	FEBRUARY
S M T W T F S	S M T W T F S	S M T W T F S
5 6 7 8 9 10 11	3 4 5 6 7 8 9	2 3 4 5 6 7 8
12 13 14 15 16 17 18	10 11 12 13 14 15 16	9 10 11 12 13 14 15
19 20 21 22 23 24 25	17 18 19 20 21 22 23	16 17 18 19 20 21 22
26 27 28 29 30 31	24 25 26 27 28	23 24 25 26 27 28
SEPTEMBER	MARCH	MARCH
S M T W T F S	S M T W T F S	S M T W T F S
2 3 4 5 6 7 8	3 4 5 6 7 8 9	2 3 4 5 6 7 8
9 10 11 12 13 14 15	10 11 12 13 14 15 16	9 10 11 12 13 14 15
16 17 18 19 20 21 22	17 18 19 20 21 22 23	16 17 18 19 20 21 22
23 24 25 26 27 28 29	24 25 26 27 28 29 30	23 24 25 26 27 28 29
30	31	30 31
OCTOBER	APRIL	APRIL
S M T W T F S	S M T W T F S	S M T W T F S
7 8 9 10 11 12 13	7 8 9 10 11 12 13	6 7 8 9 10 11 12
14 15 16 17 18 19 20	14 15 16 17 18 19 20	13 14 15 16 17 18 19
21 22 23 24 25 26 27	21 22 23 24 25 26 27	20 21 22 23 24 25 26
28 29 30 31	28 29 30	27 28 29 30
NOVEMBER	MAY	MAY
S M T W T F S	S M T W T F S	S M T W T F S
4 5 6 7 8 9 10	5 6 7 8 9 10 11	4 5 6 7 8 9 10
11 12 13 14 15 16 17	12 13 14 15 16 17 18	11 12 13 14 15 16 17
18 19 20 21 22 23 24	19 20 21 22 23 24 25	18 19 20 21 22 23 24
25 26 27 28 29 30	26 27 28 29 30 31	25 26 27 28 29 30 31
DECEMBER	JUNE	JUNE
S M T W T F S	S M T W T F S	S M T W T F S
2 3 4 5 6 7 8	2 3 4 5 6 7 8	1 2 3 4 5 6 7
9 10 11 12 13 14 15	9 10 11 12 13 14 15	8 9 10 11 12 13 14
16 17 18 19 20 21 22	16 17 18 19 20 21 22	15 16 17 18 19 20 21
23 24 25 26 27 28 29	23 24 25 26 27 28 29	22 23 24 25 26 27 28
30 31	30	29 30 31

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COLLEGE CALENDAR FOR 1928-29

FALL QUARTER

- September 14, Friday.....Entrance examinations for those who request them.
Special instruction and entertainment for Freshmen.
- September 15, Saturday.....Registration for Freshmen only.
- September 17, Monday.....Registration for Sophomores, Juniors and Seniors.
- September 18, Tuesday.....Instruction begins.
- November 12, Monday.....Armistice Day (Half Holiday).
- November 28, (noon).....
- December 2, (inclusive).....Thanksgiving recess.

WINTER QUARTER

- December 3, Monday.....Winter quarter begins.
- January 2, (inclusive).....Christmas recess.
- February 22, Friday, Washington's Birthday (Holiday)....
- March 1, Friday.....Winter quarter ends.

SPRING QUARTER

- March 2, Saturday.....Registration for the Spring quarter.
- March 4, Monday, Instruction begins.....
- March 8, Friday.....Founder's Day (Half Holiday).
- April 5-8, (inclusive).....Spring vacation.
- May 17, Friday.....Conferring of Scholarship and other awards.
- May 22, Wednesday.....Senior Chapel.
- May 24, Friday.....Spring quarter ends. Annual Alumni business meeting and social.
- May 25, Saturday.....Comemncement and Alumni banquet and ball.
- May 26, Sunday.....Baccalaureate Sermon.

SUMMER SESSION

- June 10, Monday.....Summer Session begins.
- July 19, Friday.....Summer Session ends.

BOARD OF TRUSTEES

ANTHONY W. IVINS.....	Salt Lake City
C. G. ADNEY.....	Corinne
ROY BULLEN.....	Salt Lake City
LORENZO N. STOHL.....	Salt Lake City
MRS. LEE CHARLES MILLER.....	Salt Lake City
WESTON VERNON.....	Logan
FRANK B. STEPHENS.....	Salt Lake City
MRS. BURTON W. MUSSER.....	Salt Lake City
WILFORD DAY.....	Parowan
FREDERICK P. CHAMP.....	Logan
JOHN E. GRIFFIN.....	Newton
J. R. BEUS.....	Hooper
H. E. CROCKETT, Secretary of State, ex-officio.....	Salt Lake City

OFFICERS OF THE BOARD

A. W. IVINS.....	President
C. G. ADNEY.....	Vice-President
R. E. BERNTSON.....	Secretary
JOHN T. CAINE.....	Auditor

STANDING COMMITTEES OF THE BOARD OF TRUSTEES

- Executive Committee—A. W. Ivins, C. G. Adney, John E. Griffin, Mrs. Lee Charles Miller, Weston Vernon.
- Agriculture—J. R. Beus, John E. Griffin, Mrs. Lee Chas. Miller.
- Mechanic Arts—John E. Griffin, C. G. Adney, Wilford Day.
- Agricultural Engineering—Roy Bullen, Weston Vernon, H. E. Crockett.
- Home Economics—Mrs. Burton W. Musser, Lorenzo N. Stohl, Frederick P. Champ.
- Commerce—Frederick P. Champ, Lorenzo N. Stohl, Roy Bullen.
- Experiment Station—Lorenzo N. Stohl, Mrs. Burton W. Musser, Wilford Day.
- Extension Division—Frank B. Stephens, Mrs. Lee Chas. Miller, C. G. Adney.
- Faculty and Course of Study—Weston Vernon, Frederick P. Champ, John E. Griffin.
- Livestock—C. G. Adney, J. R. Beus, Wilford Day, Mrs. Lee Charles Miller.
- Buildings and Grounds—Frederick P. Champ, Weston Vernon, John E. Griffin.
- Power, Heat, and Light—Roy Bullen, Lorenzo N. Stohl, H. E. Crockett.
- Branch Agricultural College—Wilford Day, Mrs. Lee Charles Miller, H. E. Crockett.
- Legislation and Finance—Mrs. Lee Chas. Miller, Roy Bullen, Frederick P. Champ, Mrs. Burton W. Musser, Frank B. Stephens.

OFFICERS OF ADMINISTRATION AND INSTRUCTION*

THE COLLEGE FACULTY

(Arranged in groups in the order of seniority of appointment)

ELMER GEORGE PETERSON

President

B. S., Utah Agricultural College, 1904; A. M., Cornell University, 1909; Ph. D. 1911. Graduate Student, University of Chicago, 1906; Assistant Professor of Zoology and Entomology, Utah Agricultural College, 1906-08; Instructor and Assistant Professor of Bacteriology, Cornell University, 1909-10; Professor of Bacteriology, Oregon Agricultural College, Bacteriologist, Oregon Experiment Station, 1910-11; Professor of Bacteriology, Utah Agricultural College, 1911-12; Director of Extension Division, 1912-16; President, 1916—.

WILLIAM PETERSON

Director of Extension Division, Professor of Geology

B. S., Utah Agricultural College, 1899. Instructor in Horticulture and Mathematics, Utah Agricultural College, 1899-1901; Student University of Chicago, 1901-02, Summers of 1902-03-04. Assistant Professor of Geology and Mineralogy, Utah Agricultural College, 1904-06, Professor of Geology and Physics, 1906-08; Geology Field Work, 1908-10; Professor of Geology, Utah Agricultural College, 1910-; United States Geological Survey Field Work, Summers 1912-13; Member of State Road Commission, 1914-16; Utah State Geologist, 1917-21; Director, Utah Agricultural College Experiment Station, 1921-1928; Director of Extension Division, 1924—.

HYRUM JOHN FREDERICK

Professor of Veterinary Science

D. V. M., Iowa State College, 1905. Graduate Study in Europe, 1924-25; Assistant Professor of Veterinary Science, Utah Agricultural College, 1905-06; Professor 1906—.

FRANK RUSSELL ARNOLD

Professor of Modern Languages

A. B., Bowdoin College, 1893, M. A., 1902. Graduate Student, Harvard University, Summers of 1893, 94, 99; University of Paris, 1895-96; University of Bordeaux, 1896-97; University of Goettingen, 1897-98; University of Chicago, summers of 1902-03-04. Instructor, University of Chicago, Summer of 1905; Assistant Professor of Modern Languages, Utah Agricultural College, 1904-06; Professor of Modern Languages, 1906—.

*The College Council consists of the President and all members of the faculty with the rank of professor, associate professor, or assistant professor.

JOHN THOMAS CAINE

Auditor

B. S., Utah Agricultural College, 1894; M. S. A. (Honorary Degree), 1915. Student, Cornell University, 1876; Superintendent, Cache County Schools, Superintendent Logan City Schools; Instructor in English, Utah Agricultural College, 1890-1907; Registrar, 1903-12; Auditor, 1912—.

FRANKLIN LORENZO WEST

Dean of the Faculty, Registrar, Professor of Physics

B. S., Utah Agricultural College, 1904; Leland Stanford University, 1904-05; Ph. D., University of Chicago, 1911; Professor of Physics, Brigham Young University, 1905-06; Professor of Chemistry, Utah Agricultural College, 1907-08; Fellow, University of Chicago, 1910-11; Professor of Physics, Utah Agricultural College, 1908-; Director of School of General Science, 1913-21; Dean of the Faculty, 1921—. Registrar, 1927—.

JOSEPH EAMES GREAVES

Professor of Public Health and Bacteriology

B. S., Utah Agricultural College, 1904; M. S. University of Illinois, 1907; Ph. D., University of California, 1911. Instructor in Chemistry, Utah Agricultural College, 1907-08. Assistant Professor, 1908-10; Fellow, University of California, 1910-11; Associate Professor of Physiological Chemistry, Utah Agricultural College, 1911-13; Professor of Bacteriology and Physiological Chemistry, 1913-27. Professor of Public Health and Bacteriology, 1927—.

CALVIN FLETCHER

Professor of Art

B. Pd., Brigham Young University, 1905. Student at Pratt Institute, 1906-07; Student at Columbia University, 1912; Student at Central School of Arts and Crafts, London, England, 1912-13; Student of M. Biloul and of Academy Colorossi, Paris, France, 1913; Student at Chicago Art Institute and Art Craft Institute, 1913-14; Superintendent of Art, Utah County Public Schools, 1903-05; Assistant Professor of Art, Brigham Young University, 1905; Assistant Professor of Art, Utah Agricultural College, 1907-12; Associate Professor, 1912-13; Professor, 1913—; Vice-president, National Vocational Art and Industrial Federation, 1913-14; Director, Utah Art Institute 1918-20.

*RAY BENEDICT WEST

Dean of the School of Engineering, Professor of Engineering

B. S., Utah Agricultural College, 1904; C. E., Cornell University, 1906; Engineer, Oregon Short Line Railroad, 1906-07; in charge of

*On leave of absence.

Engineering Department, Brigham Young College, 1907-08; Division Engineer, Sumpter Valley Railroad, 1908-09; Consulting Engineer, Portland, Oregon, 1909-12; Professor of Agricultural Engineering, Utah Agricultural College, 1913—, Dean of the Schools of Agricultural Engineering and Mechanic Arts, 1911-27; Dean School of Engineering, 1927—.

JAMES HENRY LINFORD

Director, Summer Session; Superintendent Correspondence-Study Dept.

B. S., Brigham Young College, 1898; D. Did. (honorary degree) Latter-day Saints Board of Education, 1913. Student at the Hopkins Laboratory of Leand Stanford University, Summer Quarter, 1895-96; Student, University of Chicago, Summer Quarter, 1897. Professor of Zoology and Botany, Brigham Young College, 1892-1913; President, Brigham Young College, 1900-13; Director of the Summer Quarter and Superintendent of the Correspondence-Study Department, Utah Agricultural College, 1913—.

ARTHUR HERBERT SAXER

*Dean of the Schools of Arts and Science and of Education,
Professor of Mathematics*

B. S., Utah Agricultural College, 1910; M. S., University of California, 1912; Ph. D., 1915; Whiting Research Fellow, 1912-13; Instructor in Physics, Utah Agricultural College, 1910-11; Professor of Mathematics, 1913; Director, School of Home Economics, 1917-21; Dean, School of Arts and Science, 1921—. Dean, School of Education, 1927—.

NIELS ALVIN PEDERSEN

Professor of English and Speech

Graduate, Utah State Normal College, 1901; A. B., University of Utah, 1906; A. M., Harvard University, 1913; Ph. D., University of California, 1924. Critic Teacher, Utah State Normal College, 1901-03; Instructor in Department of Public Speaking, University of Utah, 1906-07; Instructor in English, Utah Agricultural College, 1907-08; Assistant Professor, 1908-12; Fellow, Harvard University, 1912-13; Professor of English, Utah Agricultural College, 1913—.

PARLEY ERASTUS PETERSON

Professor of Accounting

A. B., Brigham Young College, 1907; C. P. A., 1913; Graduate Student, Harvard University, 1909-10; Graduate Student, New York University, Summer Quarter, 1910; Member, American Institute of Accounts, 1923; Instructor, History and Economics, Brigham Young College, 1907-09; Instructor in Accounting, Utah Agricultural College, 1911-12; Assistant Professor of Accounting, 1912-13; Professor, 1913—; Registrar, 1915-24.

FRANKLIN DAVID DAINES

Professor of Political Science

A. B., Brigham Young College, 1906; A. M., Harvard University, 1913; Graduate Student, University of California, 1922-24; Instructor in Mathematics, Brigham Young College, 1906-08; Instructor in Social Science, Brigham Young College, 1910-11; Assistant Professor of History, Utah Agricultural College, 1913-17; Professor, 1917-22; Professor of Political Science, 1922—.

JOHANNA MOEN

Professor of Textiles and Clothing

B. S., Utah Agricultural College, 1920. Student, Technical Schools of Norway, 1904-05 and 1914-15; Student, Columbia University, 1908-09, 1915, and graduate work, Summer Session 1922 and year of 1925-26. Professor of Textiles and Clothing, Utah Agricultural College, 1920—.

REUBEN LORENZO HILL

Professor of Chemistry

B. S., Utah Agricultural College, 1912; Ph. D., Cornell University, 1915; Fellow, Cornell University, 1913-14; Graduate Assistant in Physiological Chemistry, Cornell University, 1914-15; Instructor in Physiological Chemistry, 1915-16. Physiological Chemist, Bureau of Chemistry, United States Department of Agriculture, 1916; Bio-Chemist, Maryland Agricultural Experiment Station, 1916-18; Commissioned First Lieutenant, Food Division of the Sanitary Corps, United States Army, 1918; Professor of Chemistry, Utah Agricultural College, 1919—.

GEORGE BALLIF CAINE

Professor of Dairy Husbandry

B. S., Utah Agricultural College, 1912; A. M., University of Missouri, 1914. Assistant Professor of Animal Husbandry, Utah Agricultural College, 1914-16; Assistant Professor of Dairy Husbandry, 1916-17; Associate Professor, 1917-20, Professor 1920—.

ORSON WINSO ISRAELSON

Professor of Irrigation and Drainage

B. S., Utah Agricultural College, 1912; M. S., University of California, 1914; Ph. D., 1925. Assistant, Division of Irrigation Investigation, U. S. Department of Agriculture, Summers of 1913-14; Instructor, University of California, 1914-16; Assistant Professor of Irrigation and Drainage, Utah Agricultural College, 1916-17; Associate Professor, 1917-19; Professor, 1919—.

GEORGE STEWART

Professor of Agronomy

B. S., Utah Agricultural College, 1913; M. S., Cornell University, 1918; Ph. D., University of Minnesota, 1926. Instructor in Agronomy, Utah Agricultural College, 1913-16; Assistant Professor of Agronomy, Utah Agricultural College, 1917-18, Associate Professor, 1918-19; Professor, 1919—.

*WILLIAM LAWRENCE WANLASS

Dean, School of Commerce, Professor of Agricultural Economics and Marketing

A. B., George Washington University, 1915, M. A., 1917; Ph. D. Johns Hopkins University, 1919. Instructor in History, George Washington University, 1916-17; Fellow in Political Science, Johns Hopkins University, 1917-19; Professor of Economics, Union College, Schenectady, New York, 1919-20; Dean, School of Commerce and Business Administration, Utah Agricultural College, 1920—, Professor of Business Administration, 1920-1926; Professor of Agricultural Economics and Marketing, 1926—.

HENRY PETERSON

Professor of Psychology

A. B., Brigham Young University, 1894; Ph. B., University of Chicago, 1905; A. M., Harvard University, 1906; Graduate Student, Harvard University, 1907. Dean, Church Teachers College, Brigham Young University, 1909-11; Superintendent of Box Elder County Schools, 1911-12; Principal Ogden High School, 1912-13; Principal Jordan High School, 1914-17; Superintendent Logan City Schools, 1918-21; Professor of Education and Psychology, Utah Agricultural College, 1927—.

*JOEL EDWARD RICKS

Professor of History

A. B., University of Utah; A. M., University of Chicago, 1920; President, Weber Normal College, 1920-22; Professor of History, Utah Agricultural College, 1922—.

ALICE KEWLEY

Professor of Household Administration, Superintendent, Home Economics Cottage, in Charge of Home Economics Education

B. S., Utah Agricultural College, 1910; Instructor in Foods and Sanitation, Nephi High School, 1910-13; Head of Home Economics Department, Granite High School, 1913-1920; Assistant Professor of Education and Psychology, Utah Agricultural College, 1921-23; Professor of Household Administration, 1923—.

*Absent on leave.

MARTIN JOHN O'BRIEN

Professor of Military Science and Tactics

U. S. M. A., 1915. Major, Coast Artillery Corps, United States Army.

WILLARD GARDNER

Professor of Physics

B. S., Utah Agricultural College, 1912; M. S., University of California, 1915; Ph. D., 1916. Principal Murdock Academy, 1916-17; Graduate Assistant and Instructor in Physics, University of California, 1913-16; Professor of Physics and Mathematics, Brigham Young College, 1917-18; Associate Professor of Physics, Utah Agricultural College, 1918-24, Professor, 1924—.

BERT LORIN RICHARDS

Professor of Botany and Plant Pathology

B. S., Utah Agricultural College, 1913, M. S., 1917; Ph. D., University of Wisconsin, 1919. Instructor, Utah Agricultural College 1913-15; Assistant Professor of Botany and Plant Pathology, 1915-17; Student, University of Chicago, Summer Quarter, 1916; Fellow, University of Wisconsin, 1917; Associate Professor of Botany and Plant Pathology, Utah Agricultural College, 1919-24, Professor, 1924—.

KENNETH COLE IKELER

Dean, School of Agriculture, Professor of Animal Husbandry

M. E., Pennsylvania Normal, 1909; B. S. A., Pennsylvania State College, 1913; M. S. A., Iowa State College, 1914. Livestock Field Agent, United States Department of Agriculture, and North Carolina Experiment Station, 1915; Associate Professor of Animal Husbandry, Iowa State College, 1916-19; Studied the Agriculture of England and Scotland, Summer of 1917; Remount Service in France, 1918; Professor of Animal Husbandry, Iowa State College, 1919-20; Professor of Animal Husbandry, Utah Agricultural College, 1925—; Dean, School of Agriculture, 1926—.

*WILLIAM WILLIAMS HENDERSON

Professor of Zoology and Entomology

A. B., Brigham Young College, 1903; Graduate Student, University of Chicago, 1904; M. A., Cornell University, 1905, Ph. D., University of California, 1924. Professor of Biology, Brigham Young College, 1905-10; Principal Weber Academy, 1910-14; Professor of Zoology and Entomology, Utah Agricultural College, 1917-20; Utah Experiment Station Entomologist, 1917-20; Member Utah State Crops and Pests Commission, 1917-21; President, Brigham Young College, 1920-26; Professor of Zoology and Entomology, Utah Agricultural College, 1926—.

*On leave of absence.

HERBERT J. PACK

Professor of Entomology, Acting Head, Department of Zoology.

B. S., Utah Agricultural College, 1913; M. S., 1923; Ph. D., Cornell University, 1925. Instructor in Zoology, Utah Agricultural College, 1913-14; Professor of Biology, Latter-day Saints University, 1914-18; Instructor in Zoology and Entomology, Utah Agricultural College, 1920-21; Assistant Professor, 1921-25; Associate Professor, 1925-26; Professor of Entomology, 1926—.

GUSTAV WILSTER

Professor of Dairy Manufacturing

B. S., Dairy Manufacturing, Iowa State College, 1920; M. S., Dairy Husbandry, Iowa State College, 1921; Ph. D. Iowa State, 1928; Assistant Professor, Associate Professor, Professor of Dairy Manufacturing, Utah Agricultural College, 1921-25; Superintendent of Manufacturing and Assistant General Manager, Weber Central Dairy Association, 1925-26; Graduate Student, Iowa State College, 1926-27; Professor of Dairy Manufacturing, Utah Agricultural College, 1927—.

BYRON ALDER

Professor of Poultry Husbandry

B. S., Utah Agricultural College, 1912. Assistant Professor of Poultry Husbandry, Utah Agricultural College, 1913-25; Associate Professor, 1925; Professor, 1927—.

E. LOWELL ROMNEY

Director of Athletics

A. B., University of Utah, 1917. Second Lieutenant, U. S. Army, 1917-18; Director of Athletics, Utah Agricultural College, 1919—.

ASA BULLEN

Special Lecturer in Commercial Law

B. S., Utah Agricultural College, 1910; L. L. B., Harvard University, 1913; Lecturer in Law, Utah Agricultural College, 1917—.

BRIGHAM CECIL GATES

Professor of Music

Graduate Scharwenka Conservatory, Berlin, 1910-13; Student of Eugene Healey, New York, 1913; Student of the New England Conservatory, 1905. Head of Music Department, L. D. S. University, 1913-22; Managing director McCune L. D. S. School of Music and Art, 1920-25; Assistant director Salt Lake Tabernacle Choir, 1916-27; Musical director Lucy Gates Grand Opera Company, 1915-27; Teacher of music Utah Agricultural College, 1926; Professor of Music, 1927.

JOSEPH ARCH GEDDES

Professor of Sociology

A. B., Brigham Young College, 1907; A. M., Columbia University, 1913; Ph. D., 1924. Principal Oneida Academy, 1914-19; Instructor in Economics, Branch Agricultural College, 1919-20; Professor of History and Social Science, Brigham Young College, 1922-26; Director Division of Arts and Science, 1925-26; Associate Professor of Sociology, Utah Agricultural College, 1926-28; Professor of Sociology, 1928—.

CHRISTINE BOCKHOLT CLAYTON

Professor of Foods and Dietetics

B. S., Utah Agricultural College, 1915; Graduate Student University of Chicago, 1923; M. S., University of Minnesota, 1927; Fellow, Laura Spelman Rockefeller Memorial, Child Welfare, 1926-27. In Charge, Department of Home Economics, Branch Agricultural College, and Home Demonstration Agent for Iron County, 1919-22; Nutrition Specialist, Extension Division, Utah Agricultural College, 1923-24; Assistant Professor of Foods, 1924-28; Professor of Foods, 1928.

LYLE F. WATTS

Professor of Forestry

B. S. For., Iowa State College, 1913; M. F., 1928; United States Forest Service, 1913-1928; Timber Survey, Chief of Party, 1913-15; Timber Sales, 1916; Forest Planting, in Charge Pocatello Nursery, 1917; Assistant Supervisor, Boise National Forest, 1918-19; Forest Supervisor, Weiser, Idaho National Forests, 1920-26; Inspector of Timber Sales and Surveys and in Charge Forest Research, Intermountain District, Ogden, 1926-28; Professor of Forestry, Utah Agricultural College, 1928—.

AUGUST J. HANSEN

Associate Professor of Carpentry and Woodwork

B. S., Utah Agricultural College, 1911. Assistant Instructor, Utah Agricultural College, 1896-97; Instructor, 1897-1913; Assistant Professor of Carpentry and Woodwork, 1913-17; Associate Professor, 1917—.

AARON NEWHEY

Associate Professor of Machine Work

B. S., Utah Agricultural College, 1912; Student, Stourbridge Technical School, England, 1884-1900; Assistant in Carpentry, Utah Agricultural College, 1906-07; Instructor in Forging, 1907-14; Assistant Professor of Forging, 1914-17; Associate Professor of Forging, 1917-20; Associate Professor of Machine Work, 1920—.

WILLIAM BOWKER PRESTON*Health Supervisor of Students*

M. D., University of Illinois, 1916; Graduate work, West Side Hospital, Chicago, Illinois, 1916; Captain Medical Corps, U. S. Army, 1917-19; Medical Examiner, U. S. Veteran's Bureau, Utah Agricultural College, 1920-26; New York Polyclinic Hospital, 1926-27; Medical Supervisor of Students, 1920—.

ALFRED H. POWELL*Associate Professor of Farm and Auto Mechanics*

Four Years Apprentice Machinist; Four Years, Iron, Bronze and Steel Foundryman Apprentice. Assistant in Automobile and Tractor Work, Utah Agricultural College, 1918-19; Assistant Professor of Farm and Auto Mechanics, 1919-20; Associate Professor of Farm Mechanics, 1920—.

CHARLES TARRY HIRST*Associate Professor of Chemistry*

B. S., Utah Agricultural College, 1910; M. S., 1914; Graduate Student, University of California, 1918-19. Instructor in Chemistry, Utah Agricultural College, 1910-15; Assistant Professor of Chemistry, Utah Agricultural College, 1915-24; Associate Professor, 1924—.

SHERWIN MAESER*Associate Professor of Chemistry*

A. B., Brigham Young University, 1909; Ph. D., University of California, 1921. Professor of Physics, Brigham Young University, 1916-19; Assistant in Chemistry, University of California, 1919-21; Assistant Professor of Chemistry, Utah Agricultural College, 1921-24; Associate Professor, 1924—.

DON WARREN PITTMAN*Associate Professor of Agronomy*

B. S., Iowa State College, 1914; M. S., Utah Agricultural College, 1916. Instructor in Agronomy, Utah Agricultural College, 1916-20; Assistant Professor of Agronomy, 1920-24; Associate Professor, 1924—.

EDMUND BURKE FELDMAN*Associate Professor of Engineering*

B. C. E., University of Cincinnati, 1916; Graduate Work, University of Minnesota, 1921-22; M. A., Utah Agricultural College, 1927. Licensed Structural Engineer, State of Illinois, Structural Designer, 1916-17; Structural Engineer, 1917-18; Assistant Engineer, U. S. Bureau of Aircraft Production, 1918-19; Bridge Designer, 1919-20; Structural Engineer, 1920-21; Instructor University of Minnesota, 1921-22; Assistant Professor of Agricultural Engineering, Utah Agricultural College, 1922-24; Associate Professor, 1924—.

JOSEPH R. JENSON

Associate Professor of Physical Education

A. B., Brigham Young College, 1909; Recreational Director, Mather Field Flying School, 1918; Graduate Student, University of Wisconsin, Summer of 1912; Columbia University, Summer of 1916; University of California, Summer of 1919. Assistant Professor of Physical Education, Utah Agricultural College, 1917-25; Associate Professor, 1925—.

WALLACE J. VICKERS

Associate Professor of English

B. S., Utah Agricultural College, 1912; M. A., Stanford University, 1925; Fellow in English, Stanford, 1925-26; Ph. D., 1926. Instructor in English, Latter-day Saints University, 1917-19; Head of the Department of English, 1919-20; Assistant Professor of English, Utah Agricultural College, 1920-26; Associate Professor, 1926—.

F. B. WANN

Associate Professor of Plant Physiology

A. B., Wabash College, 1914; Ph. D., Cornell, 1920. Instructor in Botany, Cornell, 1915-23; Fellow in Biological Sciences, National Research Council, 1923-26; Associate Professor of Botany, Utah Agricultural College, 1926—.

RALPH M. RUTLEDGE

Associate Professor of Economics

B. S., Oregon Agricultural College, 1914; M. S., University of Wisconsin, 1916; Graduate Student, University of Washington, 1923-26. Professor of Economics and Marketing, Amherst, 1916-17; Market Reporter U. S. Department of Agriculture, 1917-19; Commercial Marketing, Yakima, Washington, 1919-20; Associate Professor of Economics, Utah Agricultural College, 1926—.

EZRA G. CARTER

Associate Professor of Public Health and Physiology

B. S., Utah Agricultural College, 1913; M. S., 1919; Doctor of Public Health, University of Michigan, 1925; Graduate Student, Breslau University, Germany, Summer of 1914. Instructor in Bacteriology, Utah Agricultural College, 1914-16; Dairy Bacteriologist, U. S. Public Health Service, 1917; Assistant Professor of Bacteriology and Physiology, 1918-27; Associate Professor of Public Health and Physiology, 1927—.

HENRY OBERHANSLEY

Associate Professor of Education

A. B., Brigham Young University, 1914; Graduate Student Iowa State College 1920; Graduate Student, University of California, Summer, 1921. Principal, Iron County High School, 1916-18; Assistant State Leader, Junior Vocational Work, Extension Division, Utah Agricultural College, 1918-20; Assistant Professor of Education and Psychology, Utah Agricultural College, 1921-27; Associate Professor of Education and head of Department of Education, 1927—.

KATHERINE COOPER CARLISLE

Associate Professor Physical Education for Women

B. S., Teachers' College, Columbia University, 1918; Diploma, State Normal School, Monclair, New Jersey, 1916; Tilestan Scholarship, Teachers' College, Columbia University, 1917-18. Instructor in Physical Education, Barnard College, 1918-21; Associate Professor of Physical Education for Women, Utah Agricultural College, 1922-26; Specialist in Interpretative Dancing, 1927-28; Associate Professor of Physical Education for Women, Utah Agricultural College, 1928—.

RAYMOND J. BECRAFT

Associate Professor of Range Management

B. S., Utah Agricultural College, 1917; M. S., Iowa State College, 1923. Grazing Examiner, United States Forest Service, 1917-19; Fellow in Botany, University of Chicago, 1926-27; Assistant Professor of Range Management, Utah Agricultural College, 1919-28; Associate Professor, 1923—.

GEORGE DEWEY CLYDE

Associate Professor of Engineering

B. S., Utah Agricultural College, 1921; M. S., University of California, 1923. Assistant Professor of Irrigation and Drainage, Utah Agricultural College, 1923-28; Associate Professor, 1928—.

ALMA NICHOLAS SORENSEN

Associate Professor of English

A. B., Brigham Young College, 1909; A. M., Harvard University, 1917. Instructor in English, Brigham Young College, 1909-10; Professor of English, 1912-26; Assistant Professor of English, Utah Agricultural College, 1926-28; Associate Professor, 1928—.

LEGRANDE R. HUMPHERYS

State Supervisor of Vocational Agriculture, In Charge Teacher Training in Agriculture and Shop Work

B. S., Utah Agricultural College, 1912. Associate Professor Farm Mechanics, Utah Agricultural College, 1912-1920; State Supervisor of Agricultural Education, 1926-27.

CHARLOTTE KYLE

Assistant Professor of English

B. A., and M. A., Park College. Instructor in English, Utah Agricultural College, 1907-16; Assistant Professor, 1916—.

LEON D. HARDY

Assistant Professor in Correspondence-Study Department

B. S., Utah Agricultural College, 1917. Assistant, Correspondence-Study Department, Utah Agricultural College, 1917-20; Assistant Professor, 1920—.

SAMUEL ROY EGBERT

Assistant Professor of Forging

B. S., Utah Agricultural College, 1923. Assistant in Forging, Utah Agricultural College, 1920-21; Assistant Professor, 1921—.

CHARLOTTE E. DANCY

Assistant Professor of Nursing, Dean of Women

Graduate Nurse, Johns Hopkins Training School, 1896; Head Nurse, Johns Hopkins Training School, 1896-1901; Assistant Superintendent of Nurses, University Hospital, Columbus, Ohio, 1901-02; In Charge, District Nursing Work in Newark, 1903-06; Graduate Student, Battle Creek Sanitarium and Instructor in Mental Hospital, Elgin, 1906-08; In Charge, Surgical Department, 1908-10; Superintendent of Nurses, Latter-day Saints Hospital, 1910-20; In Charge, Home Health and Nursing, Extension Division, Utah Agricultural College, 1920-21; Assistant Professor of Nursing, 1921—.

*N. E. EDLEFSEN

Assistant Professor of Physics

B. S., Utah Agricultural College, 1916; M. A. University of California, 1923. Instructor in Physics, Utah Agricultural College, 1916-23; Assistant Professor, 1923—.

AARON F. BRACKEN

Assistant Professor of Agronomy

B. S., Utah Agricultural College, 1914; M. A., 1924. Foreman, Nephi Experiment Station, 1914-17; Instructor in Farm Management, Extension Division, Utah Agricultural College, 1917-18; Scientific Assistant in Agronomy, U. S. D., 1918-20; Superintendent, Nephi Sub-Station and Instructor in Agronomy, 1921-24; Assistant Professor, 1924—.

*Absent on leave.

ALMA ESPLIN

Assistant Professor of Wool Management

B. S., Utah Agricultural College, 1916; Graduate Student, University of Wyoming, 1924-25; Studying Wool Grading and Manufacturing, Washington, Philadelphia and Boston, Spring of 1925. County Agricultural Agent, Iron County, 1916-24; Assistant Professor of Wool Management, Utah Agricultural College, 1925—.

RUSSELL ELWOOD BERNTSON

Secretary, Treasurer and Purchasing Agent

VERA CARLSON

Secretary to the President

HATTIE SMITH

Assistant Librarian

DAN ARTHUR SWENSON

Assistant Professor of Carpentry and Woodwork

B. S., Utah Agricultural College, 1915; Student Armour Institute of Technology, Summer, 1919. Assistant in Carpentry and Woodwork, Utah Agricultural College, 1913-16; Instructor, 1916-26; Assistant Professor, 1926—.

FANNIE MAUGHAN VERNON

Assistant Professor of English Extension

SIDNEY STOCK

Assistant Professor of Farm and Auto Mechanics

B. S., Utah Agricultural College, 1922. Instructor in Auto Mechanics, Ignition, Starting and Lighting, and Storage Batteries, Utah Agricultural College, 1919-26; Assistant Professor of Farm and Auto Mechanics, 1926—.

CHARLES E. McCLELLAN

Assistant Professor of Education

A. B., Brigham Young University, 1914; M. A., Utah Agricultural College, 1923; Fellow in Education, Stanford University, 1925-26; Graduate Student University of California, Summer, 1926. Superintendent of Schools, Rigby, Idaho, 1914-15; Principal, Millard Academy, 1915-17; Superintendent of Schools, 1918-21; Instructor in English and Education, Utah Agricultural College, 1921-23; Instructor in Education, 1923-25; Assistant Professor of Education, 1926—.

REED BAILEY

Assistant Professor of Geology

B. S., University of Chicago, 1924; M. S., University of Chicago, 1927; Geological Survey Work in Utah, Summer of 1922, and in Missouri, Summer of 1923. Instructor in Geology, Utah Agricultural College, 1924-26; Assistant Professor, 1926—.

WALTER WELTI

Assistant Professor of Vocal Music

B. A., Cornell University, 1924; Graduate Student, 1924-25; Graduate Student, New York University, 1926. Instructor in English, Utah Agricultural College, 1925-26; Assistant Professor of Vocal Music, 1926—.

JOHN LAWRENCE HANLEY

Assistant Professor of Military Science and Tactics

U. S. M. A., 1918. First Lieutenant, Coast Artillery Corps, United States Army.

DELROY V. GARDNER

Assistant Professor of Accounting

B. S., Utah Agricultural College, 1922; M. B. A., Harvard, 1927. Assistant Professor of Accounting, Utah Agricultural College, 1927—.

DELMAR C. TINGEY

Assistant Professor in Agronomy

B. S., Utah Agricultural College, 1922; M. A. 1924. Assistant in Agronomy, Utah Agricultural College, 1922-25; Instructor, 1925-27; Assistant Professor, 1927—.

HARRY H. SMITH

Assistant Professor in Animal Husbandry

B. S., University of Nebraska, 1920; M. S., Colorado Agricultural College, 1926. Instructor in Animal Husbandry and Superintendent Scottsbluff Experiment Station, University of Nebraska, 1920-21; Instructor in Meats, Colorado Agricultural College, 1921-24; Assistant Professor in Meats, 1924-27; Superintendent Meat Awards, Western National Livestock Show, Denver, 1922-27; Assistant Professor in Meats and Stock Judging, Utah Agricultural College, 1927—.

FRANCIS M. COE

Assistant Professor of Horticulture

B. S., Oregon Agricultural College, 1923; M. S., Iowa State College, 1924. Instructor in Horticulture, and in charge of Nebraska Fruit Farm, University of Nebraska, 1925-26; Assistant Professor of Horticulture, Utah Agricultural College, 1927—.

WALTER U. FUHRIMAN

Assistant Professor of Agricultural Economics

B. S., Utah Agricultural College, 1925; Graduate Student University of California, 1926-28; Research Assistant in Agricultural Economics, College of Agriculture, University of California, August, 1926, to September, 1928. Assistant Professor of Agricultural Economics, Utah Agricultural College, 1928—.

WILLIAM HAROLD BELL

Assistant Registrar

B. S., Utah Agricultural College, 1923. Office Manager, Service Motor Company, 1923-24; Accountant, Secretary's Office, Utah Agricultural College, 1924-25; Assistant Registrar, 1925—.

EMIL HANSEN

Superintendent of Grounds and Greenhouses, Instructor in Landscape Gardening, Extension

Graduate, Technical School in Landscape Gardening, Denmark; Fellow Royal Garden Association, 1895-97. Instructor, Stormley School of Gardening, Norway, 1897-99; Landscape Gardener, Wandamere Park, Salt Lake City, 1904-06; Landscape Gardener, Rose City Cemetery, Portland, 1906-14; Superintendent, Grounds and Greenhouses, Utah Agricultural College, 1914; Assistant in Horticulture, 1918-20; Instructor, 1920—.

CLARENCE J. HAWKINS

Band Master

THELMA FOGELBERG

Instructor in Stenography and Business Practice

Student, Utah Agricultural College, 1917-19. Instructor in Stenography and Business Practice, Utah Agricultural College, 1919—.

HARRY R. REYNOLDS

Instructor in Art

Graduate of the three-year course, Art Institute Chicago, 1923. Instructor in Art, Utah Agricultural College, 1923—.

H. LORAN BLOOD

Instructor in Botany and Plant Pathology

B. S., Utah Agricultural College, 1926. Assistant in Botany and Plant Pathology, Utah Agricultural College, 1924-26; Instructor 1926—.

CHESTER J. MYERS

Instructor in Speech

A. B., University of Utah; A. M., University of Iowa, 1925. Professor of Dramatic Art and Public Speaking, Weber College, 1925-26; Instructor in Public Speaking, Utah Agricultural College, 1926—.

FRED HAMMERLY

Instructor in English

B. A., University of Wisconsin, 1925; M. A., 1926. Instructor in English, Utah Agricultural College, 1926—.

MILTON MERRILL

Instructor in History

B. S., Utah Agricultural College, 1925. In Charge, Information-Service Department, 1927—.

KATHLEEN L. HULL

Instructor in Botany

B. A., McMaster University, Toronto, Canada, 1924; M. A., McMaster University, 1925. Instructor in Plant Pathology, University of Chicago, Summer, 1927. Assistant in Plant Pathology, University of Chicago, 1927-28. Ph. D., University of Chicago, 1928. Instructor in Botany, Utah Agricultural College, 1928—.

FRIEDA STOLL

Instructor in Textiles

B. S., University of Illinois, 1921; A. M., Teachers' College, Columbia, 1928. Instructor in Home Economics, Centralia, Illinois, 1921-26. Instructor in Textiles and Clothing, Utah Agricultural College, 1928—.

VANCE H. TINGEY

Instructor in Mathematics (Part Time)

Field Engineer, Brigham City, 1914-18; Instructor in Mathematics, Box Elder High School, 1918-28; County Engineer, Box Elder County.

MARY SORENSON

Assistant in Library

CHARLES BATT

Superintendent of Water. Heating and Lighting Plant

RASMUS OLUF LARSON

Superintendent of Buildings

STANDING COMMITTEES

1928-29

The President of the College is ex-officio a member of each standing committee.

Advanced Standing—Mr. W. H. Bell.

Attendance and Scholarship—Professors F. L. West, N. A. Pedersen, Vickers, Jenson, Dancy.

Athletic Council—Professors A. N. Sorensen, Geo. B. Caine, Romney, Mr. Berntson.

Awards and Honors—Professors Ikeler, Linford, Moen.

Boy Scout Activity—Professors Bailey, Richards, Fletcher, Oberhansley.

Campus Improvement—Professors Cardon, Clyde, Fletcher, Mr. Emil Hansen.

Certification of Teachers—Professors Saxer, Oberhansley, McClellan, Mr. Bell.

College Editor—Professor Sorensen.

Debating—Professors Vickers, Daines, Geddes.

Entrance—Professors Hirst, Egbert, Feldman, Pack, Carter.

Exhibits—Professors Fletcher, Ikeler, Moen, A. J. Hansen, Alder, Mr. Merrill, Mr. Emil Hansen.

Graduate Work—Professors F. L. West, William Peterson, Greaves, Stewart, P. E. Peterson.

Graduation—Professors O. W. Israelsen, P. E. Peterson, Mr. Bell.

High School Relations—Professors Henry Peterson, William Peterson, Kewley, Romney, Oberhansley, Geddes, Mr. Merrill.

Library—Professors Richards, Arnold, Stewart, Kewley, Miss Smith.

Loan Fund—Mr. Berntson, Professors Stewart, Dancy.

Physical Education and Military Work—Professors Hill, Ikeler, Becraft, Newey, Dr. Preston.

Recommendations for Employment—Professors Oberhansley, Kewley, McClellan.

Sectioning Committee—Professors Daines, Moen, Kewley, Carter, Kyle, Wann.

Schedule—Professor Maeser.

Student Affairs—Professor Jenson.

Student Body Organization—Professors N. A. Pedersen, McClellan, D. V. Gardner.

Student Employment—Mr. Burgoyne.

EXPERIMENT STATION STAFF

1928-29

PHILIP VINCENT CARDON, B. S.
Director

WILLIAM PETERSON, B. S.
Geologist

HYRUM JOHN FREDERICK, D. V. M.
Veterinarian

JOSEPH EAMES GREAVES, Ph. D.
Chemist and Bacteriologist

GEORGE BALLIF CAINE, A. M.
Dairy Husbandry

REUBEN LORENZO HILL, Ph. D.
Human Nutrition

GEORGE STEWART, Ph. D.
Agronomist

ORSON WINSO ISRAELSEN, Ph. D.
Irrigation and Drainage

BYRON ALDER, B. S.
Poultryman

DAVID STOUT JENNINGS, Ph. D.
Soils

RAYMOND J. BECRAFT, M. S.
Range Management

WILLARD GARDNER, Ph. D.
Physicist

BERT LORIN RICHARDS, Ph. D.
Botanist and Plant Pathologist

KENNETH C. IKELER, M. S.
Animal Husbandman

HERBERT J. PACK, Ph. D.
Entomologist

LUTHER MURKINS WINSOR, B. S.
Associate in Irrigation and Drainage

EZRA G. CARTER, Dr. P. H.
Associate Bacteriologist

CHARLES TARRY HIRST, M. S.
Associate Chemist

DON WARREN PITTMAN, M. S.
Associate Agronomist

F. B. WANN, Ph. D.
Associate Plant Physiologist

JOS. A. GEDDES, Ph. D.
Associate in Rural Sociology

GEORGE D. CLYDE, M. S.
Assistant in Irrigation and Drainage

AARON F. BRACKEN, M. A.
Superintendent, Nephi Sub-station

ALMA L. WILSON, M. A.
Superintendent, Davis County Experiment Farm

A. C. ESPLIN, B. S.
Assitant Animal Husbandman

CHARLES J. SORENSON, M. A.
Assistant Entomologist

DELMAR C. TINGEY, M. A.
Assistant in Agronomy

ALMEDA PERRY BROWN, B. S.
Assistant in Home Economics

W. PRESTON THOMAS, M. S.
Assistant in Marketing

GEORGE F. KNOWLTON, M. S.
Assistant Entomologist

*H. LORAN BLOOD, B. S.
Assistant Plant Pathologist

KATHLEEN L. HULL, Ph. D.
Assistant Plant Pathologist

GEORGE Q. BATEMAN, B. S.
Superintendent, Dairy Farm

JOHN W. CARLSON, M. A.
Superintendent Alfalfa Seed Expt. Station, Uintah Basin

C. A. HYMAS, B. S.
Superintendent Sheep Experiment Farm

LEMOYNE WILSON, B. S.
Superintendent Sanpete Experiment Farm

I. D. ZOBELL, B. S.
Superintendent Carbon County Experiment Farm

BENJAMIN F. HULME, B. S.
Superintendent, Panguitch Livestock Farm

RUSSELL E. BERNTSON
Secretary and Purchasing Agent

BLANCHE C. PITTMAN, A. B.
Publications and Library

DAVID A. BURGOYNE, B. S.
Secretary to the Director

*On leave of absence.

EXTENSION SERVICE STAFF

WILLIAM PETERSON, B. S.
Director

WILLIAM WHITE OWENS, M. A.
Assistant Director and County Agent Leader

RENA BAKER MAYCOCK
State Leader, Home Demonstration Work

JAMES CHRISTIAN HOGENSON, M. S. A.
Agronomist

BYRON ALDER, B. S.
Poultry

EMIL HANSEN
Specialist, Landscape Gardening

SADIE O. MORRIS, M. S.
Food Specialist

AFTON ODELL, B. S.
Clothing Specialist

DAVID P. MURRAY, B. S.
State Boys' and Girls' Club Specialist

ALMA C. ESPLIN, B. S.
Sheep and Wool Specialist

EFFIE SMITH BARROWS, B. S.
Home Management Specialist

KENNETH C. IKELER, M. S.
Animal Husbandman

ROBERT H. STEWART, B. S.
Asst. Professor, County Extension Agent, Box Elder County

ROBERT L. WRIGLEY, B. S.
Asst. Professor, County Extension Agent, Cache County

WILLIAM J. THAYNE, B. S.
Asst. Professor, County Extension Agent, Utah County

ORSON P. MADSEN, B. S.
Asst. Prof., County Ext. Agent, Carbon and Emery Counties

ALBERT E. SMITH, B. S.
Assistant Professor, County Extension Agent, Juab County

DELORE NICHOLS, B. S.
Assistant Professor, County Extension Agent, Davis County

ARCHIE L. CHRISTIANSEN, B. S.
Assistant Professor, County Extension Agent, Weber County

CHARLES O. STOTT, B. S.

Assistant Professor, County Extension Agent, Sanpete County

Stephen Roy Boswell, B. S.

Assistant Professor, County Extension Agent, Sevier County

ELLEN AGREN, B. S.

Asst. Prof. District Ext. Agent, Weber, Morgan and Summit Counties.

VERE L. MARTINEAU, B. S.

Assistant Professor, County Extension Agent, Salt Lake County

CLYDE R. RICHARDS, B. S.

Assistant Professor, County Extension Agent, Morgan County

MORGAN P. McKAY, B. S.

Asst. Professor, County Ext. Agent, Piute and Garfield Counties

IVY LOWRY HALL, B. S.

Asst. Professor, District Agent, Salt Lake and Tooele Counties

ERASTUS PETERSON, B. S.

Asst. Professor, County Extension Agent, Uintah County

DAVID SHARP, JR., B. S.

Asst. Professor, County Extension Agent, Summit County

LEW MAR PRICE, B. S.

Assistant Professor, County Extension Agent, Beaver County

LYMAN H. RICH, B. S.

Asst. Professor, County Extension Agent, Wasatch County

HUGH HURST, B. S., D. V. M.

Assistant Professor, County Extension Agent, Tooele County

MYRTLE DAVIDSON, B. S.

Asst. Prof., District Ext. Agent, Cache and Box Elder Counties

WALTER F. SMITH, B. S.

Asst. Professor, County Extension Agent, Washington County

WILLIAM R. SMITH, B. S., D. V. M.

Assistant Professor, County Extension Agent, Rich County (Part time co-operation with Wyoming)

ANSON B. CALL, JR., B. S. M. S.

Assistant County Extension Agent, Utah County.

IDA R. MITCHELL

Clerk

MARY HANSEN

Stenographer

Home Demonstration agents are to be appointed for Tooele and Davis counties by August first.

Agricultural College of Utah

The Agricultural College of Utah is in Logan, the county seat of Cache county, one of the most prosperous agricultural sections in the State. The city has a population, thrifty and progressive, of about 12,000; it is quiet, orderly, clean and generally attractive. An excellent bus line serves the city. Logan is on the Yellowstone Highway, the Utah Idaho Central Electric line and the Oregon Short Line Railroad.

The College, uniquely situated on a broad hill overlooking the city, one mile east of Main Street, commands a view of the entire valley and surrounding mountain ranges. The site of the College was formed by the receding waters of prehistoric Lake Bonneville, which built an enormous delta at the mouth of Logan canyon upon which the College buildings and farms are located. The beauty and geological significance of the location are perhaps unsurpassed. A half mile to the south is Logan river. A mile to the east is a magnificent mountain range with a picturesque canyon. In other directions are towns and farms of Cache County distinctly visible through the clear atmosphere. The valley is a fertile, slightly uneven plain, 4,600 feet above sea level, about twelve by sixty miles in dimensions, almost entirely under cultivation and surrounded by the Wasatch mountains. It is one of the most attractive and healthful valleys in the West.

POLICY

The Agricultural College of Utah provided, in accordance with the spirit of the law under which it was organized, a liberal, thorough, and practical education. The two extremes in education, empiricism and the purely theoretical, are avoided; for the practical is based upon and united with the thoroughly scientific. In addition to the practical work of the different courses, students are given thorough training in the sciences, mathematics, history, English, art, modern language, and other related subjects. The object is to foster all that makes for right living, good citizenship, and high efficiency.

Under this general policy, the special purpose of the Agricultural College of Utah is to be of service in the upbuilding of the State and the great West to which it belongs. The instruction in agriculture and agricultural engineering deals with the special problems relating to the conquest of the great areas of unoccupied lands, the proper use of the water supply, and the kinds of crops or live stock which in Utah may be most profitable; instruction in mechanic arts points out the most promising trades and teaches them so as to meet the needs of the

State; instruction in commerce relates to the undeveloped resources and the present commercial conditions of the State and investigates the principles and methods to be applied in the commercial growth of Utah; instruction in home economics teaches the women right living and economic independence.

The dominating aim of the Agricultural College of Utah is to make the common work of the world—the work that most men and women must do—both profitable and pleasant. The motto of the College is, Labor is Life.

HISTORY

The Agricultural College of Utah was founded March 8th, 1888, when the Legislative Assembly accepted the terms of the national law passed by Congress on July 2nd, 1862. Under this Act of Congress, and the Enabling Act providing for the admission of Utah to the Union, 200,000 acres of land were granted to the State from the sale of which there should be established a perpetual fund, the interest to be used in maintaining the College.

Under the Hatch Act, approved in 1887, the State receives \$15,000 annually for the Experiment Station. Under the Adams Act of 1906, the State receives an additional \$15,000 annually for research work by the Experiment Station. Under the Morrill Act of 1890, amended by the Nelson Act of 1907, the State receives \$50,000 annually for instruction at the Agricultural College. Under the Smith-Lever Act, the State receives annually about \$34,000 for agricultural extension work to be done by the Agricultural College. Under the Purnell Act, the state will receive in 1928-29 an appropriation of \$50,000, which will increase by \$10,000 each year until an annual income of \$60,000 has been reached, for special work in agricultural and home economics.

These federal appropriations, together with the annual income from the land-grant fund, represent the income received from the general government. Since most of these funds must be used, in accordance with the law, for specific purposes, the institution is dependent on State appropriations for funds whith which to provide additional instruction and for general maintenance. These needs have been generously met in the past by the Legislative Assemblies of the State. In 1888 the sum of \$15,000 was appropriated for buildings, and the county of Cache and the city of Logan gave one hundred acres of land on which to build the College. Since that time the State has, from time to time, appropriated sufficient funds to erect and maintain most of the buildings described in a later section, besides providing largely for instruction, experimentation, and extension work.

By legislative action, the College receives annually 28.34 per cent of 28 per cent of the total tax revenue of the State, after deducting the revenue from 2.4 mills on the total State valuation (which is not to be exceeded), set aside for the support of the elementary and the

high schools. In the same ratio the College will participate in the revenue from the occupation tax. The State, moreover, provides adequately for extension purposes and experimental work, and sets aside an increasing fund for farm and home demonstration.

In September, 1890, the Institution was opened for the admission of students. Degree courses were offered in agriculture, domestic art, civil engineering, mechanic arts, and commerce; a preparatory course and short courses in agriculture and engineering were also given. Since that time many improvements have been made in the courses. Some have been abolished; various special, practical, year and winter courses in agriculture, commerce, mechanic arts and home economics have been added; the standard of the college work has been raised. In 1903 the Board of Trustees established the School of Home Economics, the School of Mechanic Arts, the School of Commerce and Business Administration, and the School of General Science, and in 1911 the School of Agricultural Engineering. In 1923, the School of General Science was renamed the School of Basic Arts and Science; in 1927, Arts and Science.

In 1913, the Branch Normal School at Cedar City was made a branch of the Agricultural College, and is so maintained.

During the school year of 1926-27 the College realized some long-cherished ambitions. One of these was the enlargement of the plant through (1) the construction of the Athletic Stadium and (2) the completion of the Home Economics Cottage—the expression of the Institution's home ideal. Largely owing to the generous cooperation of the County Commissioners and the Commissioners of Logan City, the College obtained title to a level tract of land lying north of the cattle barns and immediately joining the campus. Upon this tract of land the Stadium was built. The other achievements of this year are scholastic in nature. The first of these was the admission of the Utah Agricultural College to the accepted list of the Association of American Universities; which means that the College has received the mark of quality in scholarship. The second was the expansion of the curriculum of the Institution through the enactment by the State Legislature of the Peters Course of Study Bill, which was signed by Governor Dern on March 7, 1927. The bill authorized the establishment of two new schools, Engineering (previously Agricultural Engineering) and Education, removed restrictions in our work in Commerce, and formally authorized the giving of major work in the arts, as well as in the sciences.

Additions and enlargements such as those mentioned have qualified the College to meet more adequately the growing demands of the state, and to fill better her position in higher education.

GOVERNMENT

The government of the College is vested in the Board of Trustees and, under its control, in the four other administrative bodies,—the Deans' and Directors' Council, the College Council, the College Faculty, and the Staff of the Experiment Station. These, in their several capacities, determine the policy and maintain the efficiency of the Institution.

THE BOARD OF TRUSTEES consists of thirteen members. Twelve are appointed by the Governor with the approval of the State Senate; the thirteenth is the Secretary of State who is ex-officio a member. This Board assumes the legal responsibility of the institution, cares for its general interests, and directs its course by the enactment of all necessary by-laws and regulations. Vested in it is the power to establish professorships, to employ the instructing force and other officers of the College, and to formulate the general policy of the Institution.

Between sessions, the power of the trustees rests with an executive committee, whose actions are referred to the Board for approval. In addition, there are committees, largely advisory, that deal with the general interests of the College.

THE DEANS' AND DIRECTORS' COUNCIL consists of the President, the Deans of the various schools,—Agriculture, Home Economics, Engineering, Commerce, and Arts and Science, the Dean of the Faculty, the Director of the Summer Session, the Directors of the Experiment Station and the Extension Division. This body has immediate supervision of instruction and discipline in all the various schools. It constitutes a permanent executive and administrative committee of the College Council and Faculty.

THE BUDGET COMMITTEE, which is advisory to the President, consists of the Deans of the five Schools of the Institution, the Dean of the faculty being chairman of the Committee. In all budget matters involving the Experiment Station or Extension Division, the respective Directors become members of the Budget Committee.

THE COLLEGE COUNCIL consists of the President of the College and all members of the faculty holding the rank of professor, associate professor, or assistant professor. Questions of discipline and policy are decided by this body.

THE COLLEGE FACULTY includes the President, professors, associate professors, assistant professors, ranking professors, instructors, and assistants. It is concerned with ordinary questions of methods and discipline and with other matters pertaining to the general welfare of the College.

THE STANDING COMMITTEES have delegated to them the immediate direction of all the phases of college life. The conduct of the student in his college home, and his regularity in performing college duties; the publications of the College and of the students; the interests of the students on the athletic field, in the amusement halls, and their various organizations,—all are within the province of appropriate committees.

THE EXPERIMENT STATION STAFF consists of the President of the College, the Director of the Station, and the heads, with their assistants, of the department of the Station. This body is employed in the investigation of problems peculiar to agriculture in this part of the country. It is further responsible for the circulation, through private correspondence and regular bulletins, of such information as is of practical value to the farming communities.

The Extension Division consists of the President of the College, the Director of the Extension Division and the various Specialists, County Agents and Home Demonstrators.

THE STUDENTS. The College is maintained at public expense for public good. The students, therefore, are under a peculiar obligation to perform faithfully all their duties to the State, the Institution, and the community. Most important of these is an active interest in all that concerns the moral and intellectual welfare of the College. Regularity of attendance, faithful attention to studies, and exemplary personal conduct are insisted upon at all times by the administrative bodies of the College.

FATHER'S AND MOTHER'S DAY. On October 24th, 1925, and annually thereafter, the Utah Agricultural College will conduct an open house to all fathers and mothers of students attending the Institution. This day has been set aside as a day when parents may see the college at its work and at its play and have an opportunity to meet the faculty, the associates of their sons and daughters, and other parents who have entrusted the care of their children to the Utah Agricultural College.

DIVISIONS OF THE COLLEGE

The work of the College falls into three distinct divisions: first, the College Proper, giving instruction on the home campus of the College; second, the Research Division, having for its object the discovery of new truth or the new application of established truth, for the advancement of life; third, The Extension Division, which carries instruction to the people who can not come to the College campus.

To accomplish this work the following administrative divisions exist:

I. The College Proper

- The School of Agriculture and Forestry.
- The School of Arts and Science.
- The School of Commerce.
- The School of Education.
- The School of Engineering.
- The School of Home Economics.
- The Summer Session.

II. Research.

- Experiment Station.

III. Extension.

- The Extension Division.

The instructional and investigational forces with the equipment necessary to carry out the work of the above divisions are organized into departments of co-ordinate authority, each of which represents a somewhat definite field of knowledge. All officers of instruction or experimentation belong to one or another of these departments. One professor, designated head, carries the administrative responsibility of the department.

THE SCHOOL OF AGRICULTURE AND FORESTRY

KENNTH C. IKELER, Dean

Agriculture is the largest and most fundamental single industry, and is one of the most promising of modern professions. The new agriculture is not a profession of unceasing toil. The business of scientific farming challenges the training and ability of the best young blood of our nation. The freedom, health, intellect and profit derived from the new and scientific agriculture are attracting large numbers of thinking people. Utah and the entire Intermountain West will continue to offer excellent opportunities to those who prepare themselves for scientific agricultural pursuits.

Most of the students who graduate in Agriculture come from the farm, but not all of them. The Utah Agricultural College is equipped to teach practical as well as scientific agriculture. Our aim is "Science with Practice." We teach the sciences underlying practical agriculture, and supplement these with studies of sufficient breadth to place the student upon the high intellectual level of those trained in other professions. A great deal of the college instructional work requires demonstration material. This is amply supplied by the college farm, the experimental plant breeding plots, and the numerous breeds of livestock and poultry.

The student about to enter training in the Science of Agriculture, may wish to know something of the opportunities offered in his chosen profession. Young men thoroughly trained in agriculture will find a large field for the exercise of their talents. It is not to be expected that all graduates trained in Scientific Agriculture will return to the farm. The demand is too great for agriculturally trained students in other allied lines of industry. Agriculture needs clear thinkers, and skillful doers, not only on crop and livestock farms and in orchards and gardens, but also in our banks, legislative halls, and educational institutions.

ADMISSION

See statement of entrance requirements of the College on page 75.

Students who expect to become candidates for the Bachelor's degree are reminded that they should complete the requirements of the Junior College before they will be allowed to enter the Senior College. Read carefully the statements regarding "Junior College," and "Senior College" found on pages 77, 78.

GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science degree must meet in full all entrance requirements and present 180 quarter hours of College work as outlined below (exclusive of the required courses in Physical Education).

THE FOUR BASIC GROUPS

The candidate must include work in each of the four basic groups as follows:

Language Group: 18 hours (English, Modern Languages, Public Speaking). Must include English 10, 11, 12 unless excused by the English Department.

Social Science Group: 12 hours (History, Economics, Political Science, Sociology).

Biological Science Group: 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology).

Exact Science Group: 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

MAJOR SUBJECT

Every student, at the time he enters the Senior College, must select a major subject in which at the time of graduation he must have completed at least thirty quarter hours of work. The student should consult with the professor in charge of his major work, and must secure the approval of the proposed combination of courses. (Read page 78).

In the School of Agriculture, students may major in the following departments: Agricultural Economics, Agronomy, Animal Husbandry, Bacteriology, Botany and Plant Pathology, Chemistry, Dairy Husbandry, Dairy Manufacturing, Entomology, Forestry and Range Management, Horticulture, Poultry Husbandry, Veterinary Science.

MINOR SUBJECTS

From eighteen to thirty hours in some field of work closely related to the major subject will be chosen by the candidate with the advice and consent of the major department and the Dean of the School. (See page 78).

SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. (See page 77 for a definition of Senior College work).

RESIDENCE, SCHOLARSHIP, ETC.

See page 79 for requirements for graduation,

OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE IN AGRICULTURE

First Year

Second Year

Language Group	9
Social Science	6
Biological Science	6
Exact Science	6
*Electives	18 to 24

Language Group	9
Social Science	6
Biological Science	6
Exact Science	6
*Electives	18 to 24

Total45 to 51

Total45 to 51

*The electives should include at least 9 hours in the proposed major subject.

Third Year

Fourth Year

Major Subject	9
Minor Subject	6
Special Group	21
Electives	9 to 15

Major Subject	12
Minor Subject	6
Special Group	21
Electives	10 to 15

Total45 to 51

Total45 to 51

THE B. S. DEGREE IN AGRICULTURE WITH HIGH SCHOOL TEACHER'S RECOMMENDATION

It is a decided advantage to candidates for the High School Teacher's Certificate to hold the standard Bachelor's degree in Agriculture if their major work is in this field. Arrangements have been made with the School of Education to provide candidates for the Bachelor of Science degree in Agriculture with the necessary professional educational courses to qualify them for the teachers Professional High School Certificate. The High School Teacher's recommendation is given by the College, and the Professional High School Certificate is awarded by the State Board of Education, to those who include the following courses along with those presented for the B. S. degree:

The candidate must present 27 hours of Professional Educational subjects, which shall include Psychology 101 and either 102 or 103, and Education 111, 115, and 121 or their equivalents. The candidate's Biological Science group must include Bacteriology 1 and Health Education 108, and the Social Science group shall include 5 credits of applied Sociology or Ethics, and 5 credits in Economics or Political Science.

Graduates of Standard Normal Courses, or those who have had one

or more years of successful teaching experience, may have some of these requirements waived. Consult the Dean in regard to this matter.

Candidates for the Bachelor's degree with the High School Teacher's recommendation will be allowed to use the 27 hours of professional education credits as desirable related work mentioned in the requirement for the major subject. (See page 78).

OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE IN AGRICULTURE AND THE TEACHER'S PROFESSIONAL HIGH SCHOOL CERTIFICATE

The first two years of this course will be the same as for the B. S. degree previously outlined, except that the candidate should elect in the Social Science and the Biological Science groups the particular courses mentioned in the preceding paragraph.

Junior and Senior Years

During the third and fourth years the student should complete his major and minor work as outlined for the B. S. degree and for his related work include the following:

Junior Year	Senior Year
Psychology 101 and 102 or 103 .....6 hours	Training (Educ. 115.....8 hours Psychology or Educa- tion .....7 hours
Education 111 and 121.....6 hours	

The following courses are suggestive for students in Vocational Agriculture with majors in Agronomy, Animal Industry, and Horticulture. All students in Vocational Agriculture should follow the same course in the Freshman and Sophomore years.

FRESHMAN YEAR

	Fall	Winter	Spring
Botany, 21, 22; Ag'1 Botany.....	5	5	..
Bact., 1 and 2; Gen. Bacteriology.....	..	..	5
Eng., 10, 11, 12; Freshman Comp.....	3	3	3
A. E., 13; Farm Motors.....	3	..	..
Hort. 1; Gen. Hort.....	5	..	..
An. Hus. 1; Judging.....	..	5	..
Poultry, 1; General Poultry.....	..	..	4
M. A. Unit C.; Shop Work.....	..	..	3
Dairy, 2; Gen. Farm Dairying.....	..	4	..
	<hr/> 16	<hr/> 17	<hr/> 15

SOPHOMORE YEAR

	Fall	Winter	Spring
Chem., 3, 4, 26; Inorganic and Organic Chem...	5	5	5
Ent., 13; Gen. Entomology.....	4	--	--
Agron., 1, 2,.....	4	4	--
Zool., 1; Gen. Zoology.....	--	--	5
An. Hus., 2; Breed Types.....	--	5	--
Econ., 50, Ag. Ec., 51; Gen. and Ag'l Econ.....	3	--	3
A. E., 14; Farm Structures.....	--	3	--
A. E., 12; Irrigation and Drainage.....	--	--	3
	<hr/> 16	<hr/> 17	<hr/> 16

JUNIOR YEAR

(Agronomy and Soils)

Geology, 2, 3, 4,.....	3	3	3
Zoology, 111; Genetics.....	5	--	--
Agronomy, 106, 108; Soils.....	4	4	--
Dairy Husb., 110; Production.....	--	--	4
Education, 111 and 121.....	--	3	3
Psychology, 101 and 102, or 103.....	3	--	3
English 125, 126, 127; Journalism.....	2	2	--
An. Husb., 103; Feeding.....	--	5	--
Bacteriology, 109; Health.....	--	--	3
Electives	--	--	1
	<hr/> 17	<hr/> 17	<hr/> 17

SENIOR YEAR

(Agronomy and Soils)

Agronomy, 111, 112, 113; Seminar.....	1	1	1
Agronomy, 117; Geog. of Agric.....	--	3	--
Agronomy, 116 or 119.....	--	3	--
Ag. Ec., 102; Farm Adm.....	--	--	3
Horticulture, 102; Orchard Management.....	--	--	4
Marketing	3	--	--
Zoology, 14; Ec. Ent.....	--	4	--
Botany, 130; Plant Pathology.....	4	--	--
Agronomy, 104; Weeds, Seeds and Grading.....	3	--	--
Education, 261, 262, 263.....	--	--	1
Education, 126; Methods.....	6	--	--
Education, 127; Practice Teaching.....	--	4-8	4-8
Electives, (English or Speech).....	--	5 or 5	--
	<hr/> 17	<hr/> 17	<hr/> 18

JUNIOR YEAR (Animal Industry)

	Fall	Winter	Spring
Poultry Husb., 105; Management.....	..	3	..
Vet. Science, 10; Vet. Science El.....	4	..	..
An. Husb., 11; Meats.....	..	3	..
An. Husb., 101; Management.....	..	..	3
Zoology, 111, Genetics.....	5	..	..
An. Husb., 105; An. Breeding.....	..	..	5
An. Husb., 109; Sheep and Wool.....	..	3	..
Agron., 106; Soils.....	4	..	..
Ag. Econ.; Farm Admin.....	..	..	3
English, 126 or 127; Journalism.....	..	2	..
Bact. 109; Health.....	..	..	3
Psychology, 101, and 102 or 103.....	3	3	..
Education, 111 and 121.....	..	3	3
Electives	1	..	..
	<hr/> 17	<hr/> 17	<hr/> 17

SENIOR YEAR (Animal Industry)

An. Husb., 120, 121; Seminar.....	2	..	..
Vet. Science, 107 or 118; Elective.....	..	3	..
Dairy Husb., 109 or 110; Productive.....	..	..	4
An. Husb., 103; Feeding.....	..	5	..
An. Husb., 104; Nutrition.....	..	..	5
An. Husb., 107; Adv. Judging.....	4	..	..
Agronomy, 117; Geogrophy.....	..	2-5	..
Hort., 102; Elective.....	..	..	4
Marketing	3	..	..
Education, 261, or 62, or 63; Seminar.....	1	..	..
Education, 126; Methods.....	6	..	..
Education, 127; Training.....	..	4	4
Electives, (English)	1	3	..
	<hr/> 17	<hr/> 17	<hr/> 17

JUNIOR YEAR
(Horticulture)

	Fall	Winter	Spring
Hort., 151; Systematic Pomology.....	3-4	..	..
Hort., 3; Landscape Gardening.....	..	3	..
Hort., 101; Orchard Management.....	..	..	..
Hort., 104; Vegetable Production.....	..	3	..
Hort., 5; Bush, Cane & Vine Fruits.....	..	4	..
Hort., 115, 116; Greenhouse and Nursery Pract. ..	..	1	1
Agron., 106; Soils.....	4	..	..
Agron., 117; Geography of Agriculture.....	..	2	..
Bot., 130; Plant Pathology.....	4	..	..
Zool., 14; Economic Entomology.....	..	4	..
Bact., 109; Public Health and Hygiene.....	..	..	3
Eng., 127; Journalism.....	..	..	2
Psychology, 101, 103; Edu. Psycychology.....	3	..	3
Ed., 111, 121; Science of Ed. Org. and Adm.....	3	..	3
Education, 263; Seminar.....	..	..	1
	<hr/> 17	<hr/> 17	<hr/> 16

SENIOR YEAR
(Horticulture)

Hort., 102; Adv. Orchard Management.....	..	5	..
Hort., 152; Commercial Pomology.....	..	3	..
Hort., 153, 154; Seminar.....	1	1	..
Hort., 110, 111, 112; Orchard Practice.....	1	1	1
Zool., 111; Genetics.....	5	..	..
Ag. Ec., 111; Marketing Ag'l Products.....	3	..	..
An. Hus., 103; Feeds and Feeding.....	..	5	..
Poultry, 105; Poultry Management.....	..	3	..
Dairy Hus., 110; Dairy Production.....	..	..	4
Ed., 126; Methods of Ag. Teaching.....	6	..	..
Ed., 127; Practice Teaching.....	..	..	8
English Electives .....	..	..	5
	<hr/> 18	<hr/> 18	<hr/> 18

THE SCHOOL OF ARTS AND SCIENCE

A. H. SAXER, Dean

Since its foundation the Utah Agricultural College has offered strong courses in the Sciences and, to a less extent, courses in the Arts, to carry out the technical work of the Schools of Agriculture, Home Economics, Commerce, and Engineering, and to assure to these students a liberal education and training for efficient citizenship.

An efficient instructing force and complete modern equipment have been provided in the natural and physical sciences, as well as in English, Mathematics, History, and Languages. This makes it possible to satisfy the growing demand for strong baccalaureate courses affording a broad general education in the earlier years, and admitting of specialization later. Such courses constitute the School of Arts and Science which, paralleling the other degree courses of the College, lead to the degree of Bachelor of Science.

ADMISSION

See statement of entrance requirements of the College on page 75.

Students who expect to become candidates for the Bachelor's degree are reminded that they should complete the requirements of the Junior College before they will be allowed to enter the Senior College. Read carefully the statements regarding "Junior College," and "Senior College" found on pages 77, 78.

GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science Degree must meet in full all entrance requirements and present 180 quarter hours of College work as outlined below (exclusive of the required courses in Physical Education).

THE FOUR BASIC GROUPS

The candidate must include work in each of the four basic groups as follows:

Language Group: 18 hours (English, Modern Languages, Public Speaking). Must include English 10, 11, 12, unless excused by the English Department.

Social Science Group: 12 hours (History, Economics, Political Science, Sociology).

Biological Science Group: 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology).

Exact Science Group: 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

MAJOR SUBJECT

Every student, at the time he enters the Senior College, must select a major subject in which at the time of graduation he must have completed at least 30 quarter hours of work. The student should consult with the professor in charge of his major work, and must secure his approval of the proposed combination of courses. (Read page 78).

In the school of Arts and Science, students may major in the following departments: Art, Bacteriology and Bio-Chemistry, Botany, Chemistry, English and Public Speaking, Geology, History, Mathematics, Modern Languages, Music, Physics, Political Science, Zoology and Entomology.

MINOR SUBJECTS

From eighteen to thirty hours in some field of work closely related to the major subject will be chosen by the candidate with the advice and consent of the major department and the Dean of the School. (See page 78).

SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. See page 77 for a definition of Senior College Work.

RESIDENCE, SCHOLARSHIP, ETC.

See page 79 for requirements for graduation.

OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE

First Year		Second Year	
English 10, 11, 12.....	9	Language Group	9
Social Science	6	Social Science	6
*Biol. or Exact Sc.....	12	*Biol. or Exact Sc.....	12
Electives	18 to 24	Electives	18 to 24

The electives should include at least fifteen hours in the proposed major.

*Biological or Exact Science should be chosen so that the candidate has at least 12 hours in each of the two groups.

Junior and Senior Years

During the third and fourth year the student should complete his major and minor subjects and any related work prescribed by the Dean or Major Department. See page 78 for these requirements.

THE B. S. DEGREE IN ARTS AND SCIENCE WITH HIGH SCHOOL TEACHER'S RECOMMENDATION

It is a decided advantage to candidates for the High School Teacher's Certificate to hold the standard Bachelor's degree in Arts and Science if their major work is in this field. Arrangements have been made with the School of Education to provide candidates for the Bachelor of Science degree in Arts and Science with the necessary professional courses to qualify them for the teacher's Professional High School Certificate. The High School Teacher's recommendation is given by the College, and the Professional High School Certificate is awarded by the State Board of Education, to those who include the following courses along with those presented for the B. S. degree.

The candidate must present 27 hours of Professional Educational subjects, which shall include Psychology 101 and either 102 or 103, and Education 111, 115, and 121, or their equivalents. The candidate's Biological Science group must include Bacteriology 1, and Health Education 108; and the Social Science group shall include 5 credits of applied Sociology or Ethics, and 5 credits in Economics or Political Science.

Graduates of Standard Normal Courses, or those who have had one or more years of successful teaching experience, may have some of these requirements waived. Consult the Dean in regard to this matter.

Candidates for the Bachelor's degree with the High School Teacher's recommendation will be allowed to use the 27 hours of professional education credits as desirable related work mentioned in the requirement for the major subject. See page 78).

OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE AND THE TEACHER'S PROFESSIONAL HIGH SCHOOL CERTIFICATE

The first two years of this course will be the same as for the B. S. degree previously outlined, except that the candidate should elect in the Social Science and the Biological Science groups the particular courses mentioned in the preceding paragraph.

Junior and Senior Years

During the third and fourth years the student should complete his major and minor work as outlined for the B. S. Degree, and for his related work include the following:

Junior Year

Psychology 101 and 102 or 103.....	6 hours
Education 111 and 121.....	6 hours

Senior Year

Training (Educ. 115).....	8 hours
Psychology or Education.....	7 hours

PRE-MEDICAL CURRICULUM AND THE BACHELOR OF SCIENCE DEGREE

Under the Supervision of the School of Arts and Science.

The Utah Agricultural College is on the accredited list of the Association of American Universities, and also on the approved list of the Council on Medical Education. The College offers the following three-year preparatory course, which meets the requirements for entrance to practically all Class A medical schools in the United States.

Candidates desiring admission to the pre-medical course should offer the usual entrance subjects. Such candidates are strongly advised to present two or three units of some one foreign language, preferably French or German. This will materially reduce the amount of college work necessary in Language, and thereby increase the student's electives.

Candidates are reminded that the mere completion of a prescribed course of study does not guarantee admission to any Class A medical school. The better medical schools find it necessary to limit the number of students who are admitted to their classes, and they select only those applicants who show the most promise and who have the better preparation.

PREMEDICAL COURSE BASED ON THE REQUIREMENTS OF THE UNIVERSITY OF UTAH SCHOOL OF MEDICINE

FRESHMAN YEAR

Name of Course	Dept. No.	Quarter Credits		
		I	II	III
Freshman Composition	English, 10, 11, 12.....	3	3	3
Inorganic Chemistry	Chemistry 3, 4, 5.....	5	5	5
General Zoology	Zoology 3, 4.....	5	5	..
General Botany	Botany 1 .....	..	..	5
Social Science .....	.....	3	3	3
Total .....	.....	16	16	16

SOPHOMORE YEAR

Name of Course	Dept. No.	Quarter Credits		
		I	II	III
Organic Chemistry	Chemistry 21, 22.....	5	5	..
Quantitative Analysis	Chemistry 102, 103.....	..	..	5
First Year French or.....	French 1, 2, 3, or.....	..	..	..
First Year German.....	German 1, 2, 3.....	5	5	5
Mathematical Analysis	Math. 20, 21, 22.....	3	3	3
Elective	(English)	3	3	3
Total .....	.....	16	16	16

JUNIOR YEAR

General Physics	Physics 20, 21, 22.....	5	5	5
2nd Year French or German.....	French or German.....	3	3	3
General Psychology	Psychology 101, 104, 104..	3	1	1
Comparative Anatomy	Zoology 113, 114 .....	..	4	4
*Elective .....	.....	5	3	3
Total .....	.....	16	16	16

*Should be taken to prepare for major work if student intends to remain and finish for his B. S. Degree.

BACHELOR OF SCIENCE DEGREE

Students who complete the foregoing three-year medical course, and register in a Class A medical school and successfully complete the first year of work prescribed in such school, will be awarded the Bachelor of Science degree in the School of Arts and Science at the Utah Agricultural College, upon presenting satisfactory evidence that the work has been completed with a reasonably high standard of achievement. The foregoing schedule meets in full the requirements for admission to the medical school of the University of Utah. Students are urged to complete the first two years of their medical work at the State University.

FOUR YEAR COURSE

Students who expect to enter medical schools that require an academic degree for entrance, or who, for other reasons, desire the Bachelor of Science degree before entering upon their medical course, may complete the requirements for the degree of Bachelor of Science in the School of Arts and Science with a major in Chemistry or Zoology. Such students should consult with the professor in charge of their proposed major subject, and arrange for the additional work necessary to complete the requirements for the Bachelor of Science degree.

THE SCHOOL OF COMMERCE

W. L. WANLASS, Dean*

The purpose of the School of Commerce is to give opportunity for liberal education with special emphasis upon the commercial and industrial phases of life. Persons who complete the commercial courses are prepared to assume leadership and responsibility in business and in various industries and professions. In order to meet the growing demands and to keep pace with recent tendencies in business education, students may major in accounting, business administration, merchandising, advertising and selling, secretarial work, economics, political science, sociology, agricultural economics and marketing.

For the professions of law and medicine the commercial courses afford excellent preparation. Graduates are prepared for positions as teachers in commercial schools. The demand for qualified teachers is greater than the supply, while many desirable positions as industrial managers are open to those who are qualified by training and experience.

ADMISSION

See statement of entrance requirements of the College on page 75.

Students who expect to become candidates for the Bachelor's degree are reminded that they should complete the requirements of the Junior College before they will be allowed to enter the Senior College. Read carefully the statements regarding "Junior College" and "Senior College" found on pages 77, 78.

GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science degree must meet in full all entrance requirements, and present 180 quarter hours of College work as outlined below (exclusive of the required courses in Physical Education).

THE FOUR BASIC GROUPS

The candidate must include work in each of the four basic groups as follows:

Language Group: 18 hours (English, Modern Languages, Public Speaking). Must include English 10, 11, 12, unless excused by the English Department.

Social Science Group: 12 hours (History, Economics, Political Science, Sociology).

*On leave of absence.

Biological Science Group: 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology).

Exact Science Group: 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

MAJOR SUBJECT

Every student, at the time he enters the Senior College, must select a major subject in which at the time of graduation he must have completed at least 30 quarter hours of work. The student should consult with the professor in charge of his major work, and must secure the approval of the proposed combination of courses. (Read page 78).

In the school of commerce, students may major in the following subjects: Accounting, Business Administration, Merchandising, Advertising and Selling, Secretarial work, Economics, Political Science, Sociology, Agricultural Economics and Marketing.

MINOR SUBJECTS

From eighteen to thirty hours in some field of work closely related to the major subject will be chosen by the candidate with the advice and consent of the major department and the Dean of the School. (See page 78).

SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. See page 77 for a definition of Senior College Work.

RESIDENCE, SCHOLARSHIP, ETC.

See page for requirements for graduation.

OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE

First Year		Second Year	
English 10, 11, 12.....	9	Language Group	9
Social Science	6	Social Science	6
*Biological or Exact Science..12		*Biological or Exact Science..12	
Electives	18 to 24	Electives	18 to 24

The electives should include at least fifteen hours in the proposed major or minor subjects.

*Biological or Exact Science should be chosen so that the candidate has at least twelve hours in each of the two groups.

JUNIOR AND SENIOR YEARS

During the third and fourth years the student should complete his major and minor subjects and any related work prescribed by the Dean or Major Department. See page 78 for these requirements.

THE B. S. DEGREE IN COMMERCE WITH HIGH SCHOOL TEACHER'S RECOMMENDATION

It is a decided advantage to candidates for the High School Teacher's Certificate to hold the standard Bachelor's degree in Commerce, if their major work is in this field. Arrangements have been made with the School of Education to provide the candidates for the Bachelor of Science degree in Commerce, with the necessary professional educational courses to qualify them for the teacher's Professional High School Certificate. The High School Teacher's recommendation is given by the College, and the Professional High School Certificate awarded by the State Board of Education, to those who include the following courses along with those presented for the B. S. degree.

The candidate must present twenty-seven hours of Professional Educational subjects which shall include Psychology 101 and either 102 or 103, and Education 111, 115, and 121, or their equivalents. The candidate's Biological Science group must include Bacteriology 1 and Health Education 108, and the Social Science group must include five credits of applied Sociology or Ethics and five credits in Economics or Political Science.

Graduates of standard Normal Courses, or those who have had one or more years of successful teaching experience, may have some of these requirements waived. Consult the Dean in regard to this matter.

Candidates for the Bachelor's Degree with the High School Teacher's recommendation will be allowed to use the twenty-seven hours of professional education credits as desirable related work mentioned in the requirements for the major subject. See page 78.

OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE AND THE TEACHER'S PROFESSIONAL HIGH SCHOOL CERTIFICATE

The first two years of this course will be the same as for the B. S. degree previously outlined, except that the candidate should elect in the Social Science and Biological Science Groups the particular courses mentioned in the preceding paragraph.

JUNIOR AND SENIOR YEARS

During the third and fourth years the student should complete his major and minor work as outlined for the B. S. Degree and for his related work include the following:

Junior Year

Psychology 101 and 102 or 103.....	6 hours
Education 111, and 121.....	6 hours

Senior Year

Training (Edu. 115)	8 hours
Psychology or Education.....	7 hours

THE SCHOOL OF EDUCATION

A. H. SAXER, Dean

The School of Education at the Utah Agricultural College was authorized by enactment of the State Legislature in 1927, and has for its specific function the training of teachers for the various certificates and diplomas authorized by the State Board of Education.

TEACHER TRAINING

The entire public school system of the city of Logan from the lowest grades up through the Senior High School has been placed at the disposal of the College for teacher training purposes. This assures prospective teachers that they will receive their training in one of the best public school systems in the State.

WHITTIER TRAINING SCHOOL

The Whittier School, one of the regular school buildings of the Logan City School System, located a short distance from the College, has been placed entirely at the disposal of the School of Education for teacher training purposes. This school comprises the first six grades and the kindergarten. Each grade has been placed in charge of an experienced and skillful teacher, whose duties include supervision of practice teaching. In addition, an experienced supervisor in Elementary Education has been placed in charge of this work. Two-year Normal students will do their training in this building. The courses in Methods of Teaching Elementary subjects, and Elementary School Curriculum are given in this building, and are taken by second-year students in connection with their teacher training work.

THE TWO YEAR NORMAL CERTIFICATE

The two-year Normal Certificate will be awarded to all students who satisfactorily complete the course of study for this certificate outlined on page 53, provided that the last forty-five hours required for the certificate have been earned at this institution and that thirty of the last forty-five have been earned in residence. Graduates of the two-year normal course are awarded the grammar grade certificate, by the State Board of Education.

SENIOR COLLEGE

Experience has shown that a large percentage of two-year normal graduates finally return to College to complete the work for the standard four-year College degree. Such students will find it distinctly to their advantage to have met the requirements for Senior College

standing. This can be done by a proper choice of the electives which are permitted in the normal course. (See requirements for Senior College on page 78). This will assure the student that he is prepared to complete the remaining two years of his college course, without handicap or delay, at any standard college or university, and in the particular field that he has chosen to do his major work.

THE FOUR YEAR COLLEGE COURSE

The four year course in the School of Education leads to the degree Bachelor of Science in Education, and the Certificate in School Administration, the Certificate in Supervision, or the High School Teacher's Certificate. Teachers with experience who do not hold the Bachelor's degree and who wish to advance in their chosen field or prepare for administrative positions will find it to their advantage to qualify for the Bachelor's degree in the School of Education. Candidates preparing to teach in the field of Music, Art, Public Health, or Physical Education will register in the School of Education and choose their teaching major along these lines.

THE B. S. DEGREE WITH TEACHER'S RECOMMENDATION

It is a decided advantage to candidates for the High School certificate to hold the Standard Bachelor's degree in the particular School, (Agriculture, Home Economics, Commerce, Engineering or Arts and Sciences) in which their major work is chosen. Arrangements have been made with all of the different Schools within the Utah Agricultural College to provide the candidates for their respective degrees with the necessary professional educational courses to qualify them to teach in these fields. Outlines of courses leading to the B. S. degree with the High School teacher's recommendation will be found under the respective schools.

ADMISSION

See statement of entrance requirements of the College on page 75.

Candidates for the two-year normal certificates are reminded that they must present fifteen units of approved high school work, but they need not present all of the ten specified units unless they desire to qualify for Senior College standing at the same time. (See pages 77 and 78).

GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science degree must meet in full all entrance requirements and present 180 quarter hours of college work as outlined below (exclusive of the required courses in Physical Education).

THE FOUR BASIC GROUPS

The candidate must include work in each of the four basic groups as follows:

Language Group: 18 hours (English, Modern Languages, Public Speaking). Must include English 10, 11, 12, unless excused by the English Department.

Social Science Group: 12 hours (History, Economics, Political Science, Sociology). Must include five hours of applied Sociology or Ethics, and five hours of Political Science or Economics.

Biological Science Group: 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology). Must include Bacteriology 1 and Health Education 108.

Exact Science Group: 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

PROFESSIONAL EDUCATION SUBJECTS

The candidate must present 27 hours of Professional Educational subjects which shall include Psychology (101 and 102 or 103) and Education (111, 115 and 121,) or their equivalents. Graduates of Standard Normal Courses or those who have had successful teaching experience may have some of these requirements waived. Consult the Dean in regard to this matter.

TEACHING MAJORS

A teaching major of at least 30 hours shall be completed in one subject that is taught in High School, (physical education, art, music, etc.).

TEACHING MINOR

A second teaching major (or teaching minor) of at least 18 hours shall be chosen in some group of subjects closely related to the teaching major.

SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. (See page 77 for a definition of Senior College work).

RESIDENCE, SCHOLARSHIP, ETC.

See page 79 for detailed requirements for graduation.

CERTIFICATES IN SCHOOL ADMINISTRATION AND IN SUPERVISION

The four-year course as outlined below leads to the degree of Bachelor of Science in Education, and the Professional High School certificate. Teachers with experience who desire to qualify for the Certificate in School Administration or Supervision must include History of Education, Educational Supervision, Educational Administration, Tests and Measurements, and special work in the Educational Seminar, depending upon the certificate desired.

OUTLINE OF COURSE FOR THE TWO YEAR NORMAL CERTIFICATE

First Year

Psychology 3.....	5
Health Education 14.....	4
Social Hygiene 40.....	2
English Comp. 10, 11, 12.....	9
Soc. Science Group.....	9
*Exact or Biological Science Group	5
†Electives 11 to 17 hours.....	

Second Year

Education 4, 5, 6, 41.....	12
Training, Ed. 42.....	10
*Exact or Biological Science..	9
Electives 14 to 20 hours.....	

*At least five hours of exact science must be chosen during the two years.

†Suggested Electives: Physical Education, Community Recreation, Music, Art, English, Modern Languages, History, Home Economics, Agriculture.

OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE AND THE TEACHER'S PROFESSIONAL HIGH SCHOOL CERTIFICATE

First Year

English 10, 11, 12.....	9
Social Science Group.....	6
*Biol. or Exact Science.....	12
Electives 18 to 24.....	

Second Year

Language Group	9
Social Science	6
*Biol. or Exact Science.....	12
Electives 18 to 24.....	

Note:—The Social Science Group should include at least five hours in Economics or Political Science, and five hours in applied Sociology or Ethics.

The Biological Science Group should include Bacteriology 1 and Health Education 108.

The Electives should include at least nine hours in the proposed teaching major and six hours in the minor. (See requirements for major and minor on page 78).

Third Year

*Educational Psychology 101 and 102 or 103.....	6
*Education 111 and 121.....	6
Teaching Major	9
Teaching Minor	6
Electives	18 to 24

Fourth Year

*Training (Ed. 115).....	8
*Education or Psychology.....	7
Teaching Major	12
Teaching Minor	6
Electives	12 to 18

*Graduates of Standard Normal Courses and those who have taught successfully for one or more years may have some of these requirements waived.

*Exact or Biological Science to be chosen so that the candidate has at least twelve hours in each of the two groups.

THE SCHOOL OF ENGINEERING

RAY B. WEST, Dean.

It is the aim of this school to give the students a broad foundation in the fundamental principles of Engineering, together with sufficient knowledge of professional practice to enable them to apply these principles.

The School consists of three divisions; Civil Engineering, Agricultural Engineering, and Mechanic Arts. Civil Engineering students may choose their major in Irrigation and Drainage, Highways, Structural Design, or Sanitation. Agricultural Engineering students may specialize in Irrigation and Drainage, Farm Machinery and Farm Power, or Farm Structures, by choosing the electives in these fields.

ADMISSION

See statement of entrance requirements of the college on page 75.

Engineering students are advised that they will be somewhat handicapped if they are not able to present for entrance $1\frac{1}{2}$ units of algebra and one unit of geometry.

GENERAL REQUIREMENTS FOR GRADUATION IN ENGINEERING

Candidates for the Bachelor of Science Degree in Civil Engineering or Agricultural Engineering must complete any one of the optional courses listed below which must include two years of Military Science and two years of Physical Education. When officially excused from Military Science or Physical Education equivalent additional work will be required.

The degree of Master of Science will be awarded upon completion of any one of the optional courses listed below and additional work as outlined on page 84 under the general requirements for the Master's Degree.

MECHANIC ARTS

This division offers a four-year course leading to the degree of Bachelor of Science in Mechanic Arts, with the object in mind of training efficient auto mechanics and garage foremen, auto electricians, machine shop foremen and High School shop teachers. It lays an Engineering and Mechanical foundation for building contracting. Two

years' trade courses in Machine Work, Forging, Woodwork, Auto Mechanics, and Auto Ignition are provided for those who wish to become proficient tradesmen in these lines.

The shops are modern and well equipped, and ample floor space is provided for work.

ADMISSION

See statement of entrance requirements of the college on page 75.

Student who expect to become candidates for th Bachelor's degree must complete the requirements for the Junior certificate before they will be allowed to enter the Senior college. See pages 77, 78 for explanation for Junior and Senior college.

GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science degree in Mechanic Arts must meet in full all entrance requirements and present 180 quarter hours of college work as outlined below, exclusive of the required courses in Physical Education.

THE FOUR BASIC GROUPS

The candidate must present the following number of quarter hours of work in each of the basic groups. Language Group, 12 hours; Social Science Group, 9 hours; Biological Science Group, 9 hours; Exact Science Group, 18 hours; Special Group, 18 hours; Special Technical Group, 30 hours.

MAJOR AND MINOR

A major of 30 hours and a minor of 18 hours are required. For further explanation of these see page 78.

OUTLINE OF COURSES IN CIVIL ENGINEERING AT THE AGRICULTURAL COLLEGE OF UTAH

Freshman and Sophomore Years Common to All C. E. Courses

FRESHMAN

Subjects	Catalogue	F.	W.	S.	T.
Freshman Composition	Eng. 10-11-12	3	3	3	9
Algebra, Trig., Analytics.....	Math. 30-31-32	5	5	5	15
General Chemistry	Chem. 1		5		5
Mechanical Drawing	C. E. 61-62.....	4	4		8
Descriptive Geometry	C. E. 63.....			4	4
Irrigation Practice	C. E. 41.....			3	3
Highway Construction	C. E. 21.....	3			3
Foundry, Machine Shop, etc.....	Mech. Arts	2		2	4
Total		17	17	17	51

SOPHOMORE

Public Speaking	Speech 6	3			3
Calculus	Math. 118-119-120.....	3	3	3	9
Heat, Light, Sound.....	Physics 20-21-22	5	5	5	15
Plane Surveying	C. E. 81-82.....	3		3	6
General Economics	Econ. 1-2-3	3	3	3	9
Eng'r. Geology	Geol. 10		5		5
Materials of Engineering.....	C. E. 1.....			3	3
Totals		17	16	17	50

IRRIGATION AND DRAINAGE ENGINEERING

JUNIOR

Subjects	Catalogue	F.	W.	S.	T.
Hydraulics	C. E. 141-142.....	3	3		6
App. Mech. & Str. of Mat'ls.....	C. E. 101-102-103.....	5	5	5	15
Reinforced Concrete	C. E. 106.....		5		5
Design of Structural Details.....	C. E. 2.....	3			3
Contracts and Specifications.....	C. E. 190.....	3			3
Electives				3	3
Oper. & Main. of Irrig. Sys.....	C. E. 144.....		3		3
Hydrology	C. E. 143.....			3	3
Drainage Design	C. E. 145.....			5	5
Heat and Power Mach.....	C. E. 196.....	3			3
Totals		17	16	16	49

SENIOR

Highway Engineering	C. E. 121-122-123.....	3	3	3	9
Design Irrig. Systems.....	C. E. 146-147.....	5	5		10
Hydroelectric Design	C. E. 148.....			5	5
Electives		3	6		9
Irrig. Institutions	C. E. 149-150.....		3	3	6
Advanced Surveying	C. E. 181.....			5	5
Soils	Agron. 106	4			4
Thesis	C. E. 198-199.....		1	1	2
Electrical Machinery	C. E. 197.....	3			3
Totals		18	18	17	53

Electives should be chosen from the following:

Accounting

Agronomy

Business

Economics

Geology

Mathematics

Military Science

All branches of Engineering

HIGHWAY ENGINEERING

Freshman and Sophomore Years, Common to all C. E. Courses

JUNIOR

Subjects	Catalogue	F.	W.	S.	T.
Hydraulics	C. E. 141-142.....	3	3		6
App. Mech. & Str. of Mat'l's.....	C. E. 101-102-103.....	5	5	5	15
Reinforced Concrete	C. E. 106.....		5		5
Design of Structural Details.....	C. E. 2.....	3			3
Contracts and Specifications.....	C. E. 190.....	3			3
Electives			3		3
Railroads	C. E. 191.....			3	3
Hydrology	C. E. 143.....			3	3
Advanced Surveying	C. E. 181.....			5	5
Heat and Power Mach.....	C. E. 196.....	3			3
Totals		17	16	16	49

SENIOR

Highway Engineering.....	C. E. 121-122-123.....	3	3	3	9
Design Irrig. Systems.....	C. E. 146-147.....	5	5		10
Hydro Electric Design.....	C. E. 148.....			5	5
Electives		6	3	6	15
Water Supply	C. E. 192.....	3			3
Sewerage Systems	C. E. 194.....		3		3
Disposal of Sewage.....	C. E. 193.....			3	3
Thesis	C. E. 198-199.....	1	1		2
Electrical Machinery	C. E. 197.....		3		3
Totals		18	18	17	53

Electives should be chosen from the following:

Accounting
Agronomy
Business
Economics

Geology
Mathematics
Military Science
All Branches of Engineering

STRUCTURAL ENGINEERING

Freshman and Sophomore Years, Common to all C. E. Courses

JUNIOR					
Subjects	Catalogue	F.	W.	S.	T.
Hydraulics	C. E. 141-142.....	3	3		6
App. Mech. & Str. of Mat'l's.....	C. E. 101-102-103.....	5	5	5	15
Reinforced Concrete	C. E. 106.....		5		5
Contracts and Specifications.....	C. E. 190.....	3			3
Bridge Analysis	C. E. 110-111-112.....	3	3	3	9
Dams, Walls & Foundations.....	C. E. 107.....			3	3
Advanced Surveying	C. E. 181.....			5	5
Heat and Power Mach.....	C. E. 196.....	3			3
Totals		17	16	16	49

SENIOR					
Highway Engineering	C. E. 121-125.....	3		3	6
Design Irrig. Systems.....	C. E. 146-147.....	5	5		10
Hydroelectric Design	C. E. 148.....			5	5
Electives		3	3	3	9
Bridge Design	C. E. 113-114-115.....	3	3	3	9
Indeterminate Structures	C. E. 201-202.....	3	3		6
Hydrology	C. E. 143.....			3	3
Electrical Machinery	C. E. 197.....		3		3
Thesis	C. E. 198-199.....	1	1		2
Totals		18	18	17	53

Electives should be chosen from the following:

Accounting

Agronomy

Business

Economics

Geology

Mathematics

Military Science

All branches of Engineering

SANITARY ENGINEERING

Freshman and Sophomore Years, Common to all C. E. Courses

JUNIOR

Subjects	Catalogue	F.	W.	S.	T.
Hydraulics	C. E. 141-142.....	3	3		6
App. Mech. & Str. of Mat'ls.....	C. E. 101-102-103.....	5	5	5	15
Reinforced Concrete	C. E. 106.....		5		5
Contracts and Spec.	C. E. 190.....	3			3
Bacteriology	Bact. 1-2-3	3	3		9
Hydrology	C. E. 143.....			3	3
Advanced Surveying	C. E. 181.....			5	5
Heat and Power Mach.....	C. E. 196.....	3			3
Totals		17	16	16	49

SENIOR

Highway Engr.	C. E. 121-125.....	3		3	6
Design Irrig. Systems.....	C. E. 146-147.....	5	5		10
Hydroelectric Design	C. E. 148.....			5	5
Electives		3	3	3	9
Water Supply	C. E. 192.....	3			3
Sewerage Systems	C. E. 194.....		3		3
Disposal of Sewage.....	C. E. 193.....			3	3
Public Health	108-109-110	3	3	3	9
Electrical Machinery	C. E. 197.....		3		3
Thesis	C. E. 198-199.....	1	1		2
Totals		18	18	17	53

Electives should be chosen from the following:

Accounting
Agronomy
Business
Economics

Geology
Mathematics
Military Science
All Branches of Engineering

AGRICULTURE ENGINEERING COURSE

SOPHOMORE YEAR		F.	W.	S.	T.
Public Speaking	Speech 6	3			3
Calculus	Math. 112-113-114	3	3	3	9
Heat, Light, Sound.....	Physics 20-21-22	5	5	5	15
Plane Surveying	C. E. 91-92.....	3		3	6
General Economics	Econ. 1-2-3	3	3	3	9
General Crops	Agron. 101		4		4
Materials of Const.....	C. E. 1.....			3	3
Totals		17	15	17	49

JUNIOR YEAR

Hydraulics	C. E. 141-142.....	3	3		6
App. Mech. & Str. of Mat'ls.....	C. E. 101-102-103.....	5	5	5	15
Ag'l. Economics	Ag. Ec. 101-102-106..	3	3	3	9
Design of Str. Details.....	C. E. 2.....	3			3
Spec. and Contracts	C. E. 190.....	3			3
Reinforced Concrete	C. E. 106.....		5		5
Farm Machinery	A. E. 15.....			3	3
Sewage Disposal	C. E. 193.....			3	3
Electives				3	3
Totals		17	16	17	50

SENIOR YEAR

Highway Transportation	C. E. 125.....			3	3
Irrig. Design	C. E. 146-147.....	5	5		10
Op. and Maint. Irr. Systems.....	C. E. 144.....		3		3
Adv. Surveying	C. E. 181.....			5	5
Soils	Agron. 106	5			5
Farm Structures	A. E. 6.....		3		3
Farm Motors	A. E. 13.....	3			3
Electives		4	6	9	19
Totals		17	17	17	51

ELECTIVES—

- | | |
|--|---|
| 1. Planning Farm Structures and Homes. | 3. Irrigation Institutions. |
| 2. House Building and Contracting. | 4. Design Drainage Systems. |
| | 5. Shop Courses and Agric. Courses on Approval. |

THE SCHOOL OF HOME ECONOMICS

_____, Dean

The School of Home Economics is organized for study along the lines essential to successful home life in modern society. The activities of the present-day household include the promotion of health and comfort through proper food, clothing, and shelter, the fostering of satisfactory family relationships, and the stressing of the importance of family groups as part of the community.

Women who graduate from the School of Home Economics are fitted for various lines of work, including homemaking, teaching, and extension work. The training given furnishes also a basis for specialization leading to various positions in the commercial field.

ADMISSION

See statement of entrance requirements of the College on page 75.

GENERAL REQUIREMENTS FOR GRADUATION

Candidates for the Bachelor of Science Degree must meet in full all entrance requirements and present 180 quarter hours of college work as outlined below (exclusive of the required courses in Physical Education).

THE FOUR BASIC GROUPS

Candidates must present twelve hours from each of the following three basic groups of work, and eighteen hours from the fourth basic group:

Social Science Group: (History, Economics, Political Science, Sociology).

Biological Science Group: (Botany, Zoology, Bacteriology, Public Health, Physiology).

Exact Science Group: (Chemistry, Physics, Mathematics, Accounting 101, 102, 103).

Language Group: (English, Modern Languages or Public Speaking). Must include English 10, 11, 12, unless executed by the English Department.

MAJOR SUBJECT

Students in the School of Home Economics may major in Foods and Dietetics, Textiles and Clothing, or Household Administration. At least by the time of entering Senior College the major should be selected and should receive the approval of the professor in charge of the Department concerned. (See page 78).

MINOR SUBJECTS

From 18 to 30 hours of work in some field closely related to the major subject will be chosen by the candidate with the advice and consent of the Dean of the School and the Head of the Department. (See page 78).

SENIOR COLLEGE WORK

Fifty-four (54) hours of Senior College work taken after the candidate has completed at least 90 hours of work must be presented by each candidate for the B. S. degree. (See page 77 for a definition of Senior College work).

SUGGESTED OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE IN HOME ECONOMICS

First Year	Units		Units
Language Group	9	Language Group	9
Biological or Exact Science....	15	Social Science	12
One or more Home Econom-ics courses and		Biological or Exact Science....	10
*Electives to make up.....	45	One or more Home Econom-ics courses and	
		Electives to make up.....	45

*The electives should include at least one course in the proposed major, and one course in the minor subject, and should also include any courses which may be prerequisites to these.

Junior and Senior Years

During the third and fourth years the student should complete his major and minor and any related work prescribed by the Dean or Major Department. (See page 78 for these requirements).

THE B. S. DEGREE IN HOME ECONOMICS WITH HIGH SCHOOL TEACHER'S RECOMMENDATION

Candidates for the High School Teacher's Certificate in Foods, Textiles, or Household Administration will find it a decided advantage to hold the standard Bachelor's Degree in Home Economics. Arrangements have been made therefore with the School of Education to provide candidates for the Bachelor of Science degree in Home Economics with the necessary professional educational courses to qualify them for the teacher's Professional High School Certificate. The High School Teacher's recommendation is given by the College, and the Professional High School Certificate awarded by the State Board of Education, to those who include the following courses along with those presented for the B. S. Degree.

Candidates must present 27 hours of Professional Educational subjects which shall include Psychology (101 and either 102 or 103), and Education 111, 121, and 122 or their equivalents. The candidate's Biological Science group must include Bacteriology 1, and Health Education 108, and the Social Science group 5 of Applied Sociology or Ethics, and 5 credits in Economics or Political Science.

Graduates of Standard Normal Courses or those who have had one or more years of successful teaching experience may have some or most of these requirements waived. Consult the Dean in regard to this matter.

Candidates for the Bachelor's Degree with the High School Teacher's recommendation will be allowed to include the 27 hours of Professional Education credits as desirable related work.

OUTLINE OF THE FOUR YEAR COURSE LEADING TO THE B. S. DEGREE AND SMITH HUGHES TEACHER'S CERTIFICATE

*FRESHMAN YEAR

	Fall	Winter	Spring
Foods 20, 21, 22.....	2	2	2
Textiles 10, 11	3	3	..
Art 1, 2, 3.....	2	2	2
Home Administration 10.....	2	..	..
English 10, 11, 12.....	3	3	3
Zoology 1 .....	..	..	5
Bacteriology 1 .....	..	3	..
Sociology 5 .....	..	3	..
Electives	3	..	3
	<hr/> 15	<hr/> 16	<hr/> 16

***SOPHOMORE YEAR**

	Fall	Winter	Spring
Textiles 20, 21, 30.....	3	3	3
Home Administration 25, 20, 21.....	2	3	3
Economics 1, 2.....	3	3	..
Foods 30 .....	..	..	3
Chemistry 1, 26.....	..	5	5
Physics 1	5	..	..
Electives (Language Group).....	3	3	3
	<hr/> 16	<hr/> 17	<hr/> 17

JUNIOR YEAR

Food Eng. 105, 106, 107.....	3	3	3
Textiles 105, 115, 125.....	3	3	3
Sociology 100	3	..	..
Education 121 .....	..	3	..
Bacteriology 108 .....	..	3	..
Home Administration 125.....	..	2	..
Psychology 101, 104, 102.....	3	1	3
Education 119 .....	..	..	3
Electives	5	2	5
	<hr/> 17	<hr/> 17	<hr/> 17

SENIOR YEAR

Foods 140, 141, 142.....	4	4	4
Textiles 160, 161, 162.....	2	2	2
Home Admin. 150, 122, 123.....	2	3	3
Home Admin. 150.....	..	..	3
Education 120, 122.....	3	5	..
Education 120, 122.....	3	5	..
Education 111, 122.....	3	..	3
Electives	3	3	2
	<hr/> 17	<hr/> 17	<hr/> 17

(*)Physical Education required of all girls during the first two years.

THE SUMMER SESSION

For over twenty years the College has conducted a Summer session as an important part of its curriculum. In 1924 it conducted the first annual session of what has become widely known as the National Summer School. The purpose of this large educational undertaking is to bring to Logan with its delightful summer climate and its many recreational features, each year, a number of the leading educators of the nation, and thus to build, in the intermountain west, a summer school of wide influence.

During the Summer session nearly all of the departments of the College are represented, the courses of instruction being arranged to meet the particular needs of Summer students.

The courses offered in Education, Psychology, and related departments make it possible for the student to meet all of the requirements for Utah certification in School Administration and Supervision for High Schools, Junior High Schools, and Grammar Schools; also, the subjects offered will meet most of the requirements for certification in surrounding states.

The departments of Botany, Geology, and Zoology are especially emphasized because of the location of the School. Cache Valley, Logan canyon, and nearby Bear Lake afford unparalleled opportunities for the study of plant and animal life and geological formations, while Bear River Bay near Brigham City, only thirty-five miles from the College campus, affords possibly as fine an opportunity as can be found anywhere in America for the study of water fowl and fish life.

Students desiring to make up conditions or prepare for advanced work are given all the assistance possible. The entire equipment of the Institution is available, and every care is taken to preserve the standard and the spirit of the College.

AGRICULTURAL EXPERIMENT STATION

P. V. CARDON, Director

The establishment of Land-grant colleges, under provisions of the First Morrill Act (1862), soon led to the development of a national sentiment favoring the creation of agricultural experiment stations in the various states and territories of the union, to supplement the educational functions of the colleges.

In keeping with this sentiment Congress, in 1887, passed the Hatch Act providing for the establishment in each state and territory, under the direction of the Land-grant college, an experiment station "to aid in acquiring the diffusing among the people of the United States useful and practical information in subjects connected with agriculture, and

to promote scientific investigation and experiment respecting the principles and applications of agricultural science." The Hatch Act appropriated \$15,000 per annum to each state.

Supplementing the Hatch Act, another act known as the Adams Act, was passed by the National Congress in 1906. Under the provisions of this act, an additional sum of \$15,000 per annum was appropriated for the use of each state experiment station "to be applied only to paying the necessary expenses of conducting original researches or experiments bearing directly on the agricultural industry of the United States, having due regard to the varying conditions and needs of the respective states and territories."

For the still more complete endowment of the agricultural experiment stations Congress, in 1925, passed the Purnell Act, which gave to each station the sum of \$20,000 per annum with an addition of \$10,000 each year thereafter until, for the fiscal year ending June 30, 1929, the total sum of \$60,000 shall be available, and shall continue to be available each year indefinitely. "The funds appropriated pursuant to this act shall be applied only to paying the necessary expenses of conducting investigations or making experiments bearing directly on the production, manufacture, preparation, use, distribution, and marketing of agricultural products and including such scientific researches as have for their purpose the establishment and maintenance of a permanent and efficient agricultural industry, and such economic and sociological investigations as have for their purpose the development and improvement of the rural home and rural life, and for printing and disseminating the results of said researches."

In addition to the Federal funds appropriated for agricultural research under the provisions of the Hatch, Adams, and Purnell Acts, the State Agricultural Experiment Stations receive money appropriated by their respective state legislatures. The amount of money coming from the state treasury is governed in each case by the relative importance of agriculture within the state and the urgency of the agricultural problems demanding solution. Hence, while the Federal funds are uniform in size in all states, the total funds differ widely, owing to the variation in state appropriations.

In 1889, two years after the Hatch Act was passed, the state of Utah, taking advantage of the provisions of that act, established the Utah Agricultural Experiment Station as a major division of the Agricultural College of Utah. Since its establishment, the Station has functioned as an active investigational unit, steadily extending its investigations into an ever-broadening field of research.

The research work is conducted on a project basis, each project, after approval, being assigned to one or more of the forty specialists who make up the Station Staff. While most of the projects now in progress are wholly under the supervision of state specialists, a few projects are conducted cooperatively with various Bureaus of the

U. S. Department of Agriculture, which assigns additional specialists to the respective fields of investigation.

The present scope of Station research work is indicated by the titles of some of the projects listed under different departments, as follows:

Agronomy: Dry-farming, Irrigation Practice, Soil Moisture, Soil Fertility, Plant Breeding, Crop Rotations, Weed Control, and Miscellaneous Field Studies.

Animal Husbandry: Hog rations, Beef Cattle Production, Wool and Sheep Management, and Production Costs in Dairying.

Bacteriology and Chemistry: Factors Influencing Bacterial Activities of the Soil, Composition of the Irrigation Water of the Intermountain Region, Changes Occurring in Food During Storage, and Permanent Fertility Studies.

Entomology: The Chalcis Fly in Alfalfa Seed, the Sugar-beet Leafhopper, and Miscellaneous Insects, including the Fruit-Tree Leaf Roller, Pear Leaf Blister Mite, Sugar-Beet Maggot, and Squash Bugs.

Geology: Underground water development.

Economics and Sociology: Influence of Cropping Systems on Production Costs, An Economic Survey of Cattle and Sheep Ranching in Utah, the Marketing of Utah Farm Products, Price Studies of Utah Farm Products, and Studies of Utah Village Life.

Home Economics: Factors Affecting Penetration of Ultraviolet Rays Through Vegetable and Animal Fibers, and Food Habits of Utah Farm Families.

Horticulture: A Horticultural Survey, Ornamental Trees and Shrubs, Fruit Varieties, Breeding Horticultural Plants, Orchard Management, and Truck Crop Production.

Human Nutrition: The Nutrition of Infants.

Irrigation and Drainage: Pumping for Irrigation, Relative Elevation of the Water-Table and the Plane of Saturation in Fine-Textured Soils, Snow Surveys, Flood and Gravel Control, and Consolidation of Irrigation Companies.

Physics: Fundamental Soil Moisture Constants.

Plant Pathology: Potato Diseases, Canning Crop Diseases, Plant Disease Survey, Chlorosis, and the Psyllid Yellows of the Potato.

Poultry Husbandry: Breeding for Egg Production, Incubation Problems, Poultry Feeding, and the Utah Intermountain Egg Laying Contest.

Range Management: Range Survey and Range Reseeding.

Soils: Action of Alkali and Soil Moisture.

Veterinary Science: Effects of Sugar-Beets and Their By-Products When Used for Feeding Livestock, and Miscellaneous Veterinary Science Investigations, including Diseases of Dairy Cattle, Sheep, and Poultry, and the Effects of Poisonous Plants on the Range.

Much of the research work conducted in furtherance of the foregoing projects, and others, is carried on in the various laboratories and greenhouses located on the college campus, but many phases of the work must of necessity be conducted on the farms and the open ranges of Utah. A number of studies are made each year in cooperation with stockmen, farmers, and farm women and many more are made on the twelve substations located in various parts of the state, as follows:

1. Central Station (Greenville).

Located in North Logan, two miles north of the college campus. Acreage, forty-five acres. Established in 1901. Owned by the state. Experiments in irrigation, rotation, fertility, plant breeding, etc. conducted.

2. Nephi Substation.

Located at Nephi, Juab County. Acreage, 103 acres. Established in 1903. Conducted cooperatively with the U. S. Department of Agriculture until October, 1920. Experiments under dry-farm conditions.

3. Davis County Experimental Farm.

Located on State Highway between Salt Lake City and Ogden near Farmington, Davis County. Acreage, 23.5 acres. Bought by state in 1925. Truck-gardening experiments conducted.

4. Panguitch Livestock Farm.

Located near Panguitch, Garfield County. Acreage, 106 acres. Owned by state. Pure-bred livestock breeding experiments conducted.

5. Widtsoe.

Located at Widtsoe, John's Valley, Garfield County. Acreage, 40 acres. Given to state without cost as long as experimentation methods practiced.

6. Kanab.

Located near Kanab, Kane County. Acreage, 40 acres. Given to state without cost as long as experimentation continues. Elevation, 5,800 feet. Dry-farm experiments conducted.

7. Experimental Dairy Farm.

Located one and three-fourths miles north of college campus. Acreage, 8 acres. Leased for a ten-year period (1924-34). Experiments in dairy feeding conducted.

8. Experimental Sheep Farm.

Located on what is known as "county farm", one mile north of college campus. Acreage, 100.5 acres. Leased from Cache County for a ten-year period (1924-34). Experiments in sheep and hog husbandry; there is also a commercial fruit orchard of several acres included in the farm.

9. Uintah Basin Alfalfa-seed Experimental Farm.

Located at Fort Duchesne, Uintah County. Acreage, 40 acres. Leased for a ten-year period with lease taken care of by Uintah and Duchesne Counties. Special legislative appropriation to care for the farm. Alfalfa-seed experimentation conducted under irrigation conditions.

10. San Juan County Experimental Farm.

Located near Monticello, San Juan County. Acreage, 40 acres. Leased for a ten-year period (1925-35). Lease taken care of by San Juan County. Special legislative appropriation to take care of farm. Alfalfa-seed, forage, cereals, etc., raised under dry-farm conditions.

11. San Pete County Experimental Farm.

Located near Ephraim, San Pete County. Acreage, 40 acres. Special study made of crops raised on peat soils. Principal crops raised are oats, barley, corn, sugar-beets, canning peas, potatoes, sweet clover.

12. Carbon County Experimental Farm.

Located near Price, Carbon County. Acreage, 40 acres. At present this farm is more of an economic demonstration irrigation farm, to demonstrate that farming under this irrigation project can be successful. Such crops as sugar-beets, wheat, barley, oats, corn, potatoes, and alfalfa are being raised.

The educational importance of the Experiment Station is emphasized by the fact that most members of the Station Staff are also members of the regular college faculty, which makes it possible for students to receive first-hand information regarding the methods employed in research, and to familiarize themselves with the results recorded each year from the researches in progress. Under proper arrangements, also, students are given access to the Station Library; and Staff members are always willing to direct students who are interested in any of the several branches of science.

For students especially prepared to help in research, and who at the same time wish to continue their studies in the college, the Experiment Station offers each year a limited number of research graduate assistantships. These graduate assistantships allow the students to whom they are granted to earn \$500 during the ten months of the school year, in addition to thirty hours of graduate credit.

THE EXTENSION SERVICE

WILLIAM PETERSON, Director

The Division of Extension Service is the joint representative of the United States Department of Agriculture and the Utah Agricultural College. It is charged under federal legislation (Smith Lever Act, May 8, 1914) and under State legislation (Sections 5290 to 5296, 1917) with the task of disseminating information that shall further the interests of agriculture and rural living.

The Extension Service thus becomes an official carrier of experimental and research information from the federal department and from the state college to the rural people. It assists also in translating scientific information into good farm or home practices by conducting tests or demonstrations in methods of application under farm or home conditions. Much effort is given to stimulating individuals and organized groups to try out and carry on practices that have been tested and are known to be good.

The Extension Service organization consists of state and of county staff members. The state includes a director, an assistant director, supervisors, and subject-matter specialists; the county staff consists of one or more county agents in each county that fulfills requirements necessary to secure the services of an agent.

The Extension Service works preferably with existing rural organizations as a means of reaching the largest possible number of people. Individuals may receive attention, however, upon personal requests. Assistance is given to men, women, boys and girls in problems pertaining to Agriculture and to Home Economics including Project Leadership and Organization Methods. Problems that are of common interest to groups are given in project form, and followed up progressively until satisfactory solutions are found and approved practices established. The State Specialists work with the County Agricultural Agents and the County Home Demonstration Agents in assembling information and determining methods of solution. Voluntary Project Leaders are trained by Specialists and County Agents to assist in organizing and leading project groups. Usually the selection of Project Leaders is made in cooperation with a sponsoring organization. State and County special short-course training is provided annually for these leaders. The State training courses are held at the college and are more intensive than those of the county.

CORRESPONDENCE-STUDY

The Utah Agricultural College was one of the first educational institutions of the inter-mountain region to establish a Correspondence-study department. Correspondence-study furnishes an excellent opportunity for systematic instruction to the student preparing for high school or college, the teacher, the professional or business man, the club woman, the project leader in extension work—to all who cannot leave home.

Students must be nineteen years of age, or submit fifteen units of high school work, or be graduates of a high school for admission to correspondence-study courses of college grade.

One-fourth of the credits necessary for a degree may be earned through this department.

Courses offered:

1. Collegiate studies. A wide variety of subjects are offered in the following departments: Agricultural Economics and Marketing, Agronomy, Animal Husbandry including Poultry, Dairying, Art, Business Administration and Accounting, Economics and Sociology, Education, English, Entomology, Geology, History, Horticulture, Irrigation and Drainage, Modern Languages, Psychology, Mechanic Arts, Public Health and Bacteriology.

2. Practical studies designed to advance men and women in a given occupation.

3. Reading Courses for the farmer; short, practical, non-credit courses in agronomy, animal husbandry, and horticulture.

4. Reading Courses for the housewife; short, practical, non-credit courses in sanitation, home management, home decoration, home care of the sick, etc.

5. Reading courses for the business man; short, practical non-credit courses in analysis of retail merchandising, retail store accounting, bookkeeping for the cooperative grain elevators and creameries.

6. Preparatory or high school courses.

A special bulletin of the correspondence-study Department will be mailed to any one interested.

Connected with the Correspondence-study Department is a Community Service Bureau, which is designed to help workers in Utah towns and villages in community celebrations, club work, and school life. It includes (a) play service, (b) club service, (c) community service, (d) debate service, and (e) library service.

ADMISSION

Entrance to the Freshman class is based upon graduation from an accredited high school, or upon the presentation of fifteen approved high school units of work, or upon examination, in case of students of special training not obtained in high school. Prospective students are strongly urged to send a record of their credits to the Registrar at least two weeks before the opening of school. Students who expect to become candidates for the Bachelor's degree from any of the Schools of the College should include (among those units presented for entrance), ten units in the following five groups: English, Mathematics, Social Science, Natural Science, and Modern Language, of which at least seven must be as follows:

English.....	three units
Algebra.....	one unit
Geometry.....	one unit
Social Science.....	one unit
Natural Science.....	one unit
(Requiring laboratory work)	

Students may not receive more than Sophomore standing until the foregoing requirements have been met.

When a deficiency exists; that is, when a student has fifteen units of high school work but lacks one or more of the units specified above, the student will be required to complete nine quarter hours of college work for each unit in which he is deficient, in addition to the regular group requirement in that field.

A student who has less than fifteen units of high school work cannot enter unless he is beyond high school age, in which case he must register as a vocational student (see below).

Physical Education and Military Drill will not be accepted in the fifteen approved units.

VOCATIONAL STUDENTS

Persons 19 years of age, or over, who have less than 15 units of high school work and who have not been in attendance at any high school within one year preceding the time of application for admission to the Utah Agricultural College, may, at the discretion of the Entrance Committee, be admitted as vocational students. Such persons are not candidates for a degree, and have no collegiate rating. They may register for any courses which their previous training or experience will enable them to carry successfully, but only after consultation with the instructors concerned, and their written approval.

If the applicant has been in attendance at a high school within one year preceding the time of application for admission to the Utah Agricultural College, his application will not be considered unless it

is accompanied by a statement from the superintendent of the high school attended, to the effect that the applicant is a person worthy of admission to the College, and that in his opinion the applicant could be better served at the Utah Agricultural College than at the high school concerned.

Such persons may receive college standing and become candidates for a degree:

a. By using the credits obtained while vocational students to satisfy college entrance requirements. In such cases 12 quarter hours will be taken for each deficient high school unit.

b. By passing written entrance examinations. These examinations will be offered the third day of each quarter. The questions will be prepared, and papers graded, by the departments concerned. The examination will be conducted by the Entrance Committee.

No credits obtained prior to the quarter in which college standing was established can be used toward a degree.

Advanced Standing. The College does not grant credit for excess high school work. Advanced standing for work done in some other accredited college after the completion of 15 units of high school work may be granted by the Committee on Advanced Standing, provided the student presents satisfactory evidence that the work offered is equivalent to the work for which he wishes to substitute it.

Class Standing. Forty hours (40) of approved college work, in addition to the prescribed entrance requirements, are required for Sophomore rank; ninety hours and Senior College Standing for Junior rank (See page 78) and one hundred thirty hours and Senior College Standing for Senior rank. The foregoing requirements are to be exclusive of the required courses in Physical Education.

Registration. The Fall quarter opens on Friday, September 14, on which date entrance examinations will be given for those requesting them; also, special instructions and entertainment will be furnished for Freshmen. Freshmen will register on Saturday, September 15, former students will register on Monday, September 17. The Winter quarter begins on Monday, December 3; the Spring quarter opens on Saturday, March 2; the Summer session on Monday, June 10. It is of decided advantage to register upon the opening date. The amount of work for which any student will be allowed to register will be reduced by one and one-half credit hours for each week or fraction thereof that the student is late in registering.

A fee of one dollar per day will be charged those who register late. In no case, however, will the fee for late registration exceed five dollars.

Fifteen Hours, exclusive of Physical Education, is the normal registration for any one quarter. A student may, however, with the consent of the Dean, register for seventeen hours.

Quarter Hours. A quarter hour credit is the credit given for one hour of lecture or three hours of laboratory work each week for twelve weeks.

The collegiate work of the Institution is divided into two divisions: Junior College, and Senior College. Courses numbered 1 to 99 inclusive, are Junior College courses. Those listed from 100 to 199, inclusive, are Senior College courses. All courses with the numbers 200 and over are Graduate courses.

Qualified students may enter courses in any quarter, unless a statement to the contrary appears in the description of the courses.

THE JUNIOR COLLEGE

The work of the Junior College comprises the studies of the Freshman and Sophomore years. In this College it is expected that the student, in addition to fulfilling the prerequisites for the major work upon which he will concentrate in the upper division, will make an effort to establish a basis for that breadth of culture which will give him a realization of the methods and the results of some of the more important types of intellectual endeavor, and a mental perspective that will aid him in reaching sound judgments. The Junior College requirements are designed to provide in some degree for the accomplishment of this purpose, without unduly limiting the student's opportunity to satisfy his individual tastes and preferences.

Students who expect to become candidates for advanced degrees either in Arts and Sciences or in the professional schools in this institution or in other leading colleges of the country should plan their courses with great care through consultation with their deans, in order to insure proper foundation for advanced work.

During the first two years the student is expected to completely satisfy the entrance requirements (see page 75) and complete 90 hours of college work which shall include 54 hours of work in four basic groups as follows:

Language Group: 18 hours (English, Modern Languages or Public Speaking). Must include English 10, 11, 12 unless excused by the English Department.

Social Science Group: 12 hours (History, Economics, Political Science, Sociology).

Biological Science Group: 12 hours (Botany, Zoology, Public Health, Bacteriology, Physiology).

Exact Science Group: 12 hours (Chemistry, Physics, Mathematics, Geology, Accounting 101, 102, 103).

In addition, the student should complete at least 15 hours of work in one subject, or school. This work is to serve as a beginning for his major work which is to be continued in the Senior College. The student must fulfill all the requirements in Physical Education and Military Science. Junior College students will not be allowed to enter Senior College courses except in meritorious cases, and upon formal application approved by both the dean and the instructor of the course.

SENIOR COLLEGE

Only such students as have completed the Junior College requirements may be registered in the Senior College.

Graduates of standard normal schools and junior colleges and students from other colleges who present at least 90 hours of college work may be registered in the senior college, even though they lack some of the group requirements of the junior college, provided they register so as to remove these deficiencies within two quarters of the time of registration.

Major Subject

The student must select a major subject upon entering the senior college. The Dean will assign the student to the professor in charge of this major who will register the student during his junior and senior years and act as his adviser.

The Major Department has the authority to prescribe not less than thirty, nor more than fifty hours of work in the Major Subject (exclusive of any courses which may have been used to satisfy Junior College requirements in any of the four basic groups). The Major Department and the Dean shall also prescribe such other related courses as may be considered desirable, provided always that the students' free electives may not be reduced below thirty-six hours.

Minor Subjects

A minor subject or group of related subjects consisting of from eighteen to thirty hours of work closely related or basic to the major must be selected by the student and approved by the Dean of the School and the Major Department.

GRADUATION

REQUIREMENTS FOR THE DEGREE OF BACHELOR OF SCIENCE

The College confers the Degree of Bachelor of Science in Agriculture, Arts and Sciences, Agricultural Engineering, Civil Engineering, Commerce and Business Administration, Home Economics, Education, or Mechanic Arts upon students who meet the requirements specified herewith:

GENERAL REQUIREMENTS

1. Six quarters work in Physical Education by men and women, provided that candidates who are officially excused from physical education present one credit of other work for each quarter that they have been excused.

2. Six quarters of work in Military Science for men unless officially excused from this requirement.

3. One hundred eighty credits of collegiate work, exclusive of the required courses in Physical Education.

4. Fifty-four hours of Senior College work taken after the candidate has presented at least ninety college credits.

5. The completion of a major, a minor, and related work as outlined under Senior College. (See page 78).

6. The completion of required work in the four basic groups as outlined under Junior College. (See page 77).

Paragraphs 5 and 6 above do not apply to students who are pursuing a prescribed course of study such as in Engineering, Pre-medical work, Forestry and Smith Hughes Teacher Training courses.

7. Candidates must have been in residence at the Utah Agricultural College during three full quarters. During this period the candidate must have obtained at least 45 resident credits. The last 45 credits presented for the degree must have been earned in the College, and of these 45, at least 30 must have been earned in residence. The residence requirement may be satisfied by residence Summer School work.

8. An average grade of "C" or higher; credits of "D" grade not to exceed one-fifth of those used toward graduation; and no credit for courses having a grade lower than "D."

9. Written application to graduate, filed with the Graduation Committee about February 1st, containing information requested. A special fee of one dollar will be charged those applying later than March 1st.

10. Recommendation for graduation in writing by:

(a) The Professor in charge of the major subject.

(b) The Dean of the school in which the major work is done,

and

(c) The Committee on Graduation.

11. The candidates must be of good moral character and must have discharged all college fees.

12. Attendance in person at the Commencement exercises at which the candidate expects to secure the degree, unless excused in writing by the Graduation Committee for very urgent reasons.

MILITARY SCIENCE REGULATIONS

The Utah Agricultural College has been designated by law as an institution where units of the Reserve Officers' Training Corps are maintained. As such, it has promised the Government to give certain military instruction of a definite kind and character.

The student, by registration at the Institution, obligates himself to conform to such requirements as are or may be prescribed by the College Council under the regulations of the Reserve Officers' Training Corps. These requirements, at present, are as follows: Two years of military training (6 credit hours) are required of all able-bodied male students. By regulation of the College the course is required during the first and second years at the Institution.

In order to remain in and receive instruction at the College or to graduate finally from the College, the student must be in attendance at all military classes and do satisfactory work in them.

It shall be the duty of every student of whom military training is required, to see that he is properly registered for the course and to report for instruction. Students who are required to take military training but fail to register or to report for classes will, with the approval of the President, be excluded from all classes in the College. The responsibility of complying with the regulations regarding military science rests entirely with the students.

Upon petition, the following classes of students may defer, or be excused from, the requirements in military science:

a. Students who are physically disqualified may be excused from Military Science by the College Medical Examiner. Participation in athletics cancels all excuses from Military Science based on physical disability.

b. Any student entering as a junior or senior may be excused from military science if he has fulfilled the requirements in this subject laid down by the institution from which he comes.

c. In exceptional cases, students over twenty-five years of age at the time of original entrance into the College may be excused from military science.

d. Married students may be excused from the requirements in military science.

e. Students who are not citizens of the United States and who do not intend to become citizens will not be permitted to take military training.

f. A student who is working his way through college by means of employment which conflicts with Military Science may have said requirements deferred during any quarter in which he is so employed. Students taking advantage of this provision must present a letter from their employer substantiating their claim and setting forth the hours of employment.

g. Students who attend college during the Winter quarter only will be exempted from military training during that quarter.

h. Students who are active in the Army, Navy, or Marine Corps of the United States, or who are commissioned officers of the National Guard or Naval Militia, or reserve officers of the military or naval forces of the United States, or members of the Naval Reserves will not be permitted to enroll in the Reserve Officers' Training Corps.

Vocational students are automatically excused from the requirements in Military Science.

A student claiming exemption from military science for any of the reasons noted above will present a petition for such excuse to the appointed Committee on or before the beginning of the quarter in which he desires to be excused. All such petitions will be prepared on the prescribed form which may be obtained in the office of the Professor of Military Science and Tactics, and will be accompanied by letters, or other documentary evidence substantiating the claim. No student will be permitted to submit a petition who has not already duly registered for military science and has entered upon the course of instruction.

Petitions filed after the expiration of two weeks following the date of the student's registration will not be received except for illness or physical disability occurring after such date.

Pending the action of his petition, the student will register for the course prescribed for his class and will enter upon the work of such course.

Any student who may be excused from attendance in military science for any valid reason must make up the deficiency in other departments of study.

Every student registered for military science is required to make a uniform deposit of \$5.00. The refund of this sum, less the cost of any property lost or damaged, will be made upon the completion of the year or upon withdrawal from the course.

GRADUATION WITH HONORS

In order to stimulate individual work and to encourage superior students to strive toward their highest possible attainments the college affords opportunity for graduation with honors. Measurements of attainments of honors students is based largely on the student's ability to pursue individual work through a period of two years in preparation for a group of comprehensive examinations. The important elements of the plan are to leave the student sufficient opportunity to develop independence and initiative and yet to provide him with a plan of work, and enough individual instruction to prevent misdirected effort.

Any student of more than usual ability and scholarship who has been admitted to senior college standing may be advanced to candidacy for the bachelor's degree with honors under the following conditions:

1. Completion of 48 credit hours in the four basic groups; namely, biological science, exact science, social science and language, and not less than 9 credit hours in each of these groups, provided that a candidate in the School of Engineering shall have 9 credit hours in each of the groups except biological science.

2. Showing of superiority in the proposed major field.

3. Grades as follows at the time of application for candidacy for graduation with honors:

- a. Not less than 50 per cent of the credit hours "A" grade.
- b. Not less than 85 per cent of the credit hours "A" and "B" grade.
- c. No grade used for eligibility for honors work lower than "C."

4. Written approval by the major and minor departments.

5. Presentation to the College Council by the Graduation Committee together with a two-thirds favorable vote of the Council not earlier than the end of the sophomore year nor later than the beginning of the second quarter of the Junior Year.

DEPARTMENTAL PLANS AND REQUIREMENTS FOR HONORS WORK

The honors student must satisfy a major department and two minor departments.

In addition to the requirements above specified for advancement to candidacy for graduation with honors the following requirements must be satisfied for graduation:

REQUIREMENTS FOR THE BACHELOR'S DEGREE WITH HONORS

1. Full time work in residence during a period of not less than five quarters nor more than nine quarters after being advanced to candidacy for the honors degree. Three quarters residence must be immediately preceding the conferring of the degree.
2. The completion of 180 credit hours, of which not less than 75 hours must be honors work.
3. The candidate must be recommended for graduation with honors unanimously by the professors in the major and minor departments and must receive favorable vote of two-thirds of the members of the College Council.

GRADUATION AT THE CLOSE OF THE SUMMER SESSION

Any student who can satisfy the requirements for graduation by the close of the Summer session may be presented to the College Council in May. Such students are listed with the class of the following year, and receive their public graduation at the following Commencement. The graduation of such students, however, will be certified to by the proper authorities of the college as soon as their work is completed.

REQUIREMENTS FOR THE MASTER'S DEGREE

Registration of all graduate students shall be made by the chairman of the committee on graduate work.

The degree of Master of Science may be granted on the completion of the following requirements:

The candidate must have been in actual residence at the College three full quarters after receiving the standard Bachelor's degree (or after having met the requirements for this degree), and must obtain forty-five (45) credits of which at least twenty (20) must be of graduate grade, in addition to the 180 college credits and 15 high school units, or their equivalent, required for the Bachelor's degree.

Summer school students with the baccalaureate degree are allowed six years in which to complete their work and residence requirements for the Master's degree.

To be admitted to the candidacy for the Master's degree the student must have his course of study approved by November 1, or at least seven months preceding the date on which he expects to receive the degree, by the committee on graduate work, the professor in charge of his major subject, and the dean of the school in which his major subject is taken.

A thesis covering the work done in the major department (from 9 to 15 credits) must be prepared by May 1, and must be accepted by the group which approved his candidacy. At least two copies of the thesis must be filed with the college librarian.

The candidate must successfully pass an oral examination which will be given under the direction of the committee on graduate work by the professor in charge of his major subject, the dean of the school in which his major work is taken, and three professors to be selected by the committee on graduate work.

Graduate students should not register for more than 15 credit hours. Students who have established records of high scholarship may be permitted to register for additional credits, (not to exceed 17 per quarter) by the Dean of the Graduate Division.

STUDENT EXPENSES

Students must pay the following fees upon registration:

UTAH STUDENTS

	Three Quarters	Winter and Spring Quarters	Winter Quarter Only	Spring Quarter
Registration fee	\$10.00	\$10.00	\$10.00	\$10.00
Tuition	27.00	18.00	9.00	9.00
Library fee	3.00	3.00	3.00	3.00
Gymnasium fee	3.00	2.00	1.00	1.00
Student Body fee.....	15.00	12.00	10.00	7.00
Withdrawal deposit	1.00	1.00	1.00	1.00
	<hr/> \$59.00	<hr/> \$46.00	<hr/> \$34.00	<hr/> \$31.00

STUDENTS FORM OTHER STATES

	Three Quarters	Winter and Spring Quarters	Winter Quarter Only	Spring Quarter
Registration fee	\$35.00	\$35.00	\$35.00	\$35.00
Tuition	27.00	18.00	9.00	9.00
Library fee	3.00	3.00	3.00	3.00
Gymnasium fee	3.00	2.00	1.00	1.00
Student Body fee.....	15.00	12.00	10.00	7.00
Withdrawal deposit	1.00	1.00	1.00	1.00
	<hr/> \$84.00	<hr/> \$71.00	<hr/> \$59.00	<hr/> \$56.00

All students registered for Military Science and Tactics are required to make a \$5.00 deposit for uniform.

A fee of one dollar per day will be charged those who register late. In no case, however, will the fee for late registration exceed five dollars.

All students registering in the fall must pay fees for the entire year. If the student desires to discontinue, refund will be made on all fees except the registration and student body fees. By state law, the Institution may relieve worthy and deserving students from payment of the registration fee, provided that not more than ten per cent of the total student body be relieved of the fee in any one year.

According to the constitution of the Student Body, every regular student must obtain at time of registration a Student Body card which will admit him to all the activities controlled by the Student

Body organization; athletic events—football, baseball, basketball, tennis and track—dramatics and musical entertainment, socials, lectures, etc., and, in addition, give him a copy of the annual year book and subscription to the college paper. This system has been found to be a great saving to the students and a most excellent means of fostering proper interest in student activities.

Since all students are required to take Physical Education they must provide themselves with gymnasium suits and gymnasium shoes. The cost is about \$6.00.

Each student in Foods and Dietetics courses and Household Administration 150 must provide herself with the following: two hair nets, one or two white petticoats, two washable white uniforms, two white work aprons. Each student in Home Nursing courses must provide herself with the following: one or two white petticoats, two washable white uniforms. The uniforms required for the Home Nursing course, and the aprons and uniforms required for the Foods course and Household Administration 150, must be of the standard designs provided by the Textile and Clothing Department. Materials should be procured after consultation with the instructors in charge.

All graduates from the School of Home Economics who desire to qualify as teachers in home economics under the Smith-Hughes Act must spend the required period of residence in the Home Economics Cottage, as indicated in Household Administration 150. The expenses are \$6.00 per week for board and room.

The fee charged for a diploma of graduation is \$15.00.

Good board and room in a private home costs from \$6.00 to \$7.50 a week. By renting rooms and boarding themselves, students are able to reduce considerably the cost of room and board.

The College maintains a modern well equipped cafeteria, where students may eat at cost.

The following table furnishes an estimate of the actual yearly expenses of students attending the Utah Agricultural College:

	Low	Average	Liberal
Tuition, books, fees, etc.....	\$ 94.00	\$ 94.00	\$ 94.00
Room and Board.....	200.00	250.00	300.00
Incidentals or Miscellaneous.....	75.00	100.00	150.00
Total.....	<u>\$369.00</u>	<u>\$445.00</u>	<u>\$544.00</u>

Students are held responsible for any injury done by them to the College property.

The Senior Loan Fund, a gift of the class of 1911, and added to by the class of 1922, has helped many students through school.

SELF HELP

A large portion of the students of the Utah Agricultural College earn part of their expenses while in residence. During the fall and spring particularly there is some demand for workers by farmers, fruit growers and owners of city property. The college itself gives employment to many students, and college officers are glad to aid students in finding work.

Young people who expect to earn their way through college should first of all, by earnest labor and careful economy, accumulate as large a college expense fund as possible. It is desirable, though not essential, that this sum be sufficient to cover the expense of the first year. Correspondence or conference with the College Secretary usually reveals some way to earn the additional amount needed. After one year in college, the earnings of the student in vacation and during the college year generally enable him to continue his course without interruption.

It is the policy of the college to encourage and aid in every possible way earnest, ambitious young men and women who want an education and an opportunity to help themselves.

SCHOLARSHIPS AND AWARDS

The **Johansen Scholarship Fund** of \$5,000, a gift of the late Mrs. Johana Johansen, provides three scholarships annually, worth in the aggregate from \$300 to \$350, for help of worthy students of Junior or Senior rank. Applications for this scholarship must be filed with the chairman of the committee on honors and awards before April 15 for the succeeding year.

The **One Thousand Dollar Liberty Bond Endowment** yields a loan fund of \$40, which is to be loaned by the Directors' Council to a student who has made formal application before April 12, and who has need of financial help and who has demonstrated a high degree of scholarship in the work of previous quarters.

The **1927 Class Gift** to the College yields an income sufficiently large to insure two annual scholarships of \$125.00. Recipients are to be selected by the Awards and Honors Committee.

The **U. A. C. Faculty Women's League** has a loan fund for the women students of the college. Loans may range from \$50 to \$200. Preference is given to senior women students. Loans are made at any time during the year when money is available.

The **Citizenship Award**, given by President Elmer G. Peterson, is awarded annually to the male student who shows evidence of being able to repay, in greatest measure, to the Nation the investment which it has made in him.

(a) The potential vocational or professional efficiency of the student as shown by his scholarly attainment, his industry, and natural ability and talent, 50 points.

(b) His patriotism, honesty and good judgment as a student citizen, as an indication of his future attitude as a voter or public servant, combining a progressive spirit with a love of country and a concern for the safety and development of American institutions of liberty and justice. His qualities of social leadership, as shown in student affairs, based upon physical and moral cleanliness and strength, 50 points.

The American Legion Scholarship Medal is awarded each year to the letterman on the football team who maintains the highest scholastic record during the football season.

The R. O. T. C. Medal, a gift of the Institution, is awarded each year to the student in Military Science and Tactics who most nearly represents the ideal that the Reserve Officers' Training Corps is striving to develop, upon the following basis:

- (a) Character, 20 points.
- (b) Scholarship, 15 points.
- (c) College Activity, 15 points.
- (d) Leadership, 20 points.
- (e) Aptitude for and interest in Military Science, 20 points.
- (f) Physique and bearing, 10 points.

The American Legion Military Medal is given to a letterman who exhibits the most wholesome attitude toward military training during the football season.

The Rhodes Scholarships. Special attention is called to the Rhodes Scholarships in Oxford University, England, to which one appointment from the State of Utah will made for 1929. The scholarships are each of the value of approximately \$1,500.00 a year, and are tenable for three years. Full information and application blanks may be secured at the President's office.

The National Transportation Institute. Prizes are awarded to the three students presenting the best papers on the subject of transportation. The prizes are fifty dollars, fifteen dollars and ten dollars. The winner of the first prize will be eligible to contest for a still larger prize in a district contest.

The Hendricks Medal, a gift of Mrs. Carrie M. Hendricks in memory of the late Professor George B. Hendricks, is awarded yearly to the student who delivers the best extemporaneous speech.

The Sons of the American Revolution award a medal annually for the best patriotic speech.

The Vernon Medal, a gift of Dr. Weston Vernon, is given each year for the best short story written around western characters and with a western setting.

The Utah Agricultural College Science Medal, a gift of Professor William Peterson, is given each year to the student writing the best review of recent scientific research in either mathematics, physics, chemistry, geology, zoology, botany or astronomy.

The Titus Medals, given by Dr. E. G. Titus to the winners of the singles tennis tournament for men and women.

Scholarship A's are given at the close of each year to the six highest ranking students.

Several further awards are given for athletic and other student body activities.

A list of the recipients of various honors will be found at the back of the catalogue.

BUILDINGS

The College now has nearly thirty buildings, all modern, well lighted and heated, and all carefully planned.

The Main Building is 360 feet long, 200 feet deep in the central part, and four stories high. It contains the large auditorium, seating about 1,500, the administrative offices, the library, and many class rooms and laboratories.

The Home Economics Building is one of the largest and best equipped structures devoted entirely to domestic science and arts in the inter-mountain region.

The Thomas Smart Gymnasium is one of the finest and most complete college gymnasiums in the Rocky Mountain region. It contains a main exercise hall, 114 by 70 feet, the equipment of which can be quickly put in place or hoisted out of the way to suit any need, and a smaller floor for women. Ten feet above the main floor is a running-track, hand-ball court and wrestling and boxing room. The large pool, shower and steam baths, and dressing rooms with steel lockers are ideal.

The Experiment Station is a two-story brick structure 45 feet long and 35 feet wide, containing the offices of the station and extension staffs, and a dark room for photography.

The Mechanic Arts Building, a two-story brick structure, has a floor area of 40,000 square feet and contains the wood-working depart-

ment, machine shops, forging rooms, foundry, carriage building rooms, mechanic arts museum, drafting rooms, blue-printing room, room for painting and staining and class rooms—all well equipped.

Widtsoe Hall, containing three stories, thoroughly modern in plan and equipment, is occupied by the Departments of Chemistry, Physics and Bacteriology.

The Livestock Building of three stories is exceptionally well fitted with facilities for the study of dairying, hog, horse, poultry and sheep husbandry, and range management.

The Agricultural Engineering Building, an excellently arranged three-story brick structure, houses the Departments of Irrigation and Drainage, Surveying, Hydraulics, Mechanical Drawing, Architecture, Household Sanitation, Farm Mechanics, including Auto and Tractor work, and some related phases of the work of the institution.

The Plant Industry Building is a four story brick building, thoroughly modern in arrangement. It houses the departments of Agronomy, Botany, Plant Pathology, and Horticulture.

The Barns contain the various breeds of cattle, horses, sheep and hogs most common in the western section.

The Horse Barn is the most modern structure of its kind that can be built.

The Stock Judging Pavilion makes it possible to do stock judging in all kinds of weather.

The Poultry Yards are equipped with various types of buildings to accommodate about one thousand fowls, a brooder house with a capacity of 2,500 chicks and a modern incubator cellar with standard incubators of several makes and designs. The laboratory is well supplied with different styles and sizes of incubators, brooders, food hoppers, etc., suited to use in study of the management of large and small flocks.

The Green Houses are prepared for laboratory instruction in the propagation of horticultural plants, and in the practice of floriculture and vegetable gardening.

The new Veterinary Hospital contains a well equipped dispensary, operating room, stalls for patients, and up-to-date fixtures.

The Seed House is designed as a store house for the seeds of the Department of Agronomy.

A modern heating plant recently renovated and enlarged, keeps the building comfortably warm during the winter months.

EQUIPMENT

The **Bacteriological Laboratory** is well equipped with modern apparatus. To encourage careful work, the students are provided with individual lockers.

The **Chemical Laboratories** are modern and thoroughly equipped.

The **Physical Laboratory Equipment** is complete, consisting of all the necessary apparatus for class demonstrations. Gas, compressed air, continuous and alternating current, electric power, etc., are available.

The **Physiological Laboratory** is supplied with an excellent collection of native animals, skeletons, both articulated and disarticulated, many enlarged models of organs, a papier Mache manikin, and complete slides of all the tissues.

The **Zoological and Entomological Laboratory** is equipped with water and gas, improved instruments, embryological models, skeletons from the vertebrae groups, collections of mounted birds, mammals, reptiles, fishes and insects.

The **Botanical and Plant Pathological Laboratory** is well equipped for general work as well as for research. The department maintains a good working library in connection with the laboratory.

The **Department of Agronomy** is provided with a large collection of agricultural plants, seeds, and soils representing the main crops and types of soil of the inter-mountain region.

The **College Farms** are equipped with the best and latest implements and machinery for carrying on work scientifically. They are divided for illustrative and experimental purposes, into numerous plats on which many varieties of farm crops are grown and upon which important experiments are carried on.

The **Soil Physics Laboratory** has a good supply of apparatus for accurate and up-to-date work.

The **Farm Crops Laboratory**, equipped with gas, has a large supply of farm crops on hand and is well supplied with apparatus.

The **Commercial Rooms**, occupying the entire third floor of the front of the Main building, are specially designed and furnished for business. The room for typewriting contains a full complement of standard machines.

The **College Museum** contains many specimens illustrative of geology, mineralogy, paleontology and vertebrate and invertebrate zoology, including a large series of plants of the western mountain

region and an extensive series of plants of the western highlands. An extensive collection of grains represents the produce of Utah and other states. Contributions of fossils, ores, animals, plants, relics or other material of value to the museum, are appreciated. All gifts are labeled and preserved and the names of the donors are recorded.

The Art Rooms, composed of six studios, are supplied with plain and adjustable tables, easels and model stands, individual lockers, cases for materials, casts from the old masters in sculpture, reproductions of great paintings, still-life models and draperies, and a valuable collection of ceramics, textiles, and books on art.

The Library occupies the entire front of the second floor of the Main building. It is the laboratory for every course given at the College, and contains 36,000 books, and a large number of pamphlets. The books are classified by the Dewey decimal system and there is a complete dictionary and catalogue. The shelf list, also on cards, forms a classified catalogue for official use.

The library is also a depository for United States documents and for the Carnegie Institute. The files of the United States Department of Agriculture and publications of the Experiment Stations are nearly complete; the bulletins are bound and made easy of access by the printed card catalogues. There are one hundred and forty periodicals on the subscription lists, besides about one hundred which are received as exchanges for publications of the college and of the Experiment Station. Practically all the newspapers of the State are on file in the Reading Room. The Reading Room is beautifully furnished in oak, and contains many oil paintings and pieces of statuary.

CAMPUS AND FARMS

The land occupied by the College embraces about 155 acres. Of this, forty acres constitute the campus, laid out with flower beds, broad stretches of lawn, tennis courts, wide drives and walks.

Immediately east of the Main building is the quadrangle of about ten acres. A large athletic stadium located just north of the campus on a ten-acre tract of land affording a beautiful view of the east mountains and Cache Valley, is the new home for U. A. C. athletic contests. The farms comprise 97 acres, the orchards and the small fruit and vegetable gardens, 10 acres.

Other farms are maintained under the direction of the Experiment Station, in various parts of the State.

The equipment of the Branch Agricultural College is described in the circular of that institution.

THE STUDENT BODY ORGANIZATION

The Student Body Organization embraces all the students of the Institution. Its prime object is to foster a proper spirit of college loyalty, and to give the students practice in managing public affairs. It also secures dispatch and efficiency, as well as uniformity, in the administration of all matters pertaining to the entire student body, and induces all students to participate in college activities. The organization provides each member with a maximum of proper athletic, theatrical, and social recreation at a minimum expense. This society has control, under faculty direction, of the following student activities:

1. **Athletics**, including all inter-class and intercollegiate contests in football, baseball, basketball, track, tennis, swimming, and wrestling events. The Agricultural College is a member of the Rocky Mountain Conference, a fact which insures an interesting athletic program.

2. **Musicals**, including all public performances of the Band, the Orchestra, and Musical clubs.

3. **Theatricals**. In the past, **A Midsummer Night's Dream**, **She Stoops to Conquer**, **Pygmalion**, **Milestones**, **The Admirable Crichton**, **What Every Woman Knows**, **Twelfth Night**, and various other productions have been presented.

4. **Debating and Public Speaking**. Triangular debating arrangements have been made whereby, annually, the Agricultural College debates the University of Utah and the Brigham Young University on the same question. Interstate debates are also held. Those who make places on the teams not only win awards, but are admitted to membership in the Agora, an honorary debating fraternity. Debaters showing special excellence are admitted to membership in Tau Kappa Alpha, a national honorary debating fraternity, a chapter of which is established at the College. Interest in debating is keen.

The annual oratorical contests for the Hendricks medal and for that given by the Sons of the American Revolution maintain among the students an active interest in extemporaneous public speaking.

5. **Student Publications**. The students of the College, under the direction of the faculty of English, publish a weekly school paper, **Student Life**, and the College year book, named **The Buzzer**; the Scribblers' Club publish **The Scribble**; the Agricultural Club, the **Ag. Club Link**. Interest in journalistic work is stimulated by the presence on the campus of a chapter of the national honorary journalistic fraternity, Pi Delta Epsilon.

6. **Lyceum Course**. Each year the Student Body presents from six to eight numbers of national or local repute. These entertainments are free to members of the Student Body.

STUDENT CLUBS

Not affiliated with the Student Body organizations, but standing largely for the interest of the various schools, are the following clubs:

The Agricultural Club, which aims to promote interest in scientific and practical agriculture. The club has effected similar organizations in the high schools of the State. Special lectures, often illustrated, are given at intervals throughout the season. The club conducts an annual tour, studying farm conditions in northern Utah.

The American Association of Engineers, a local chapter of the national organization made up of students and practicing engineers. Any student majoring in any branch of engineering is eligible for membership. The purpose of the organization is the advancement of the engineering profession and the promotion of the economic and social welfare of the engineer. Regular monthly luncheons are held at which men of repute are invited to speak on pertinent current problems.

The Home Economics Club, to which all students registered in the School of Home Economics are eligible. The object of the club is four-fold:

1. To stimulate interest in Home Economics;
2. To broaden and elevate each member's ideals for social, industrial, and economic life, thereby helping her better to fit into the home and community;
3. To provide wholesome recreation;
4. To foster ties of friendship among the members.

The Mechanic Arts Association, designed to promote the social and intellectual interests of its members. All the teachers and all the regularly enrolled students of mechanic arts are eligible to membership. Monthly meetings are held throughout the year at some of which lectures are given by specialists.

Phi Kappa Phi, a chapter of the national honorary scholarship fraternity.

Tau Kappa Alpha, a chapter of the national honorary debating fraternity open to both men and women.

Alpha Kappa Psi, a national fraternity, devoted to the interests of commerce and business.

The Friars Club, a state-wide organization which purposes to keep alive the "Missionary Spirit" among its members, and to promote social and educational functions, is open to male students who have spent six months or more in exclusive missionary work.

Phi Upsilon Omricon. The Kappa chapter of this national professional and honorary fraternity is installed at the College. Its purpose is to stimulate interest in Home Economics.

Scabbard and Blade, a company of the national, honorary, military fraternity of the same name, organized to perpetuate American ideals and efficiency among young college men and open to cadet officers who have shown particular excellence in their R. O. T. C. work.

Pi Delta Epsilon, a chapter of the national honorary journalistic fraternity.

The Agora, a local organization open to men and women from the intercollegiate debating teams. Its purpose is to foster debating in the College and keep alive among the old debaters an interest in such contests. Students may become members of both Tau Kappa Alpha and the Agora.

The Chemistry and Physics Club, organized to promote interest in chemistry.

The Be-No Club, organized to foster scholarship, fellowship and loyalty.

The Periwig Club, composed of students prominent in dramatics. This club produces annually several plays.

The Booklovers' Club, organized for the study of subjects related to English literature, but not usually treated in the classroom.

The Scribblers Club, an organization of writers.

The Cosmos Club, organized for the study of present day problems; open only to men.

The Jesters, a group of campus players chosen from a list of successful performers in high school.

Theta Alpha Phi, an honorary, professional dramatic fraternity.

The Tennis Club, organized to promote interest in tennis and to develop players for intercollegiate matches.

The Empyrean Club, organized for the study of current problems; open only to women of Senior College standing.

Le Cercle Francais, maintained by students in French for practice in speaking the language.

The Cosmopolitan Club, composed of faculty members and students and organized for the purpose of furthering internationalism and world peace. To be eligible for membership, candidates must be of foreign birth, must have lived in a foreign country or show a keen interest in world problems.

Beaux Arts Guild, designed to encourage interest in the various phases of Art by lectures and informal social meetings.

Alpha Sigma Nu, a senior honorary society. Membership in maintained by election from the Junior class held each spring.

The Men's Rifle Club, organized to foster marksmanship among its members.

The Women's Rifle Club, composed of women interested in the use of firearms.

The Botany Club, composed of students especially interested in botany. Lectures are given by faculty members and initiation discussions by new members.

The Short Story Club, organized to promote interest in the short story.

The Girls' Athletic Club, composed of women students who are particularly interested in athletic contests, hiking, etc.

Various other clubs, as well as a number of fraternities and sororities are also to be found on the campus.

DEPARTMENTS OF INSTRUCTION

(ARRANGED ALPHABETICALLY)

Agricultural Economics and
Marketing

Agronomy and Soils

Animal Industry

- a. Animal Husbandry
- b. Dairy Husbandry
- c. Dairy Manufacturing
- d. Poultry Husbandry
- e. Veterinary Science

Botany

Business Administration and
Accounting

- a. Accounting
- b. Advertising and Selling
- c. Business Administration
- d. Secretarial Work

Chemistry

Economics and Sociology

Education

English and Speech

Engineering

1. Civil Engineering
 - a. Applied Mechanics and Design
 - b. Highways
 - c. Irrigation and Drainage
 - d. Mechanical Drawing
 - e. Surveying

2. Agricultural Engineering

- a. Rural Architecture
- b. Farm Machinery and Farm Motors

3. Mechanic Arts

- a. Auto Mechanics
- b. Auto Ignition
- c. Forging
- d. Machine Work
- e. Woodwork

Foods and Dietetics

Forestry

Geology

History

Horticulture

Household Administration

Mathematics

Military Science and Tactics

Modern Languages and Latin

Music

Physical Education

- a. For Men
- b. For Women

Physics

Political Science

Public Health and Bacteriology

Psychology

Textiles and Clothing

Zoology and Entomology

RECITATION TABLE

The recitation hours are sixty minutes in duration and begin at 8:00

a. m. The following shows the entire schedule:

1st hour, 8:00-9:00	4th hour, 11:00-12:00	7th hour, 2:00-3:00
2nd hour, 9:00-10:00	5th hour, 12:00-1:00	8th hour, 3:00-4:00
3rd hour, 10:00-11:00	6th hour, 1:00-2:00	9th hour, 4:00-5:00

COURSES OF INSTRUCTION

AGRICULTURE AND FORESTRY

AGRICULTURAL ECONOMICS AND MARKETING

(Administered jointly by the schools of Agriculture and Commerce).

W. L. Wanlass*, P. E. Peterson, Professors; W. P. Thomas, W. U. Fuhrman, Assistant Professors.

Note: Students in either the School of Agriculture or the School of Commerce may major in this department. Students specializing in the division of Agricultural Administration should register in the School of Agriculture. This will lead towards such occupations as the management of farms, teaching of farm management, employment as county agents, etc. Students wishing to specialize in the division of Agricultural Marketing should register in the School of Commerce. This will lead towards the business of marketing, management of cooperative enterprises, etc.

The foundation work in the first two years is similar, and should include studies in the different branches of the School of Agriculture, as well as in the School of Commerce. Liberality in the selection of these courses is permitted, depending upon the type of occupation which the student intends to follow after graduation; but it should include at least twelve credits from the School of Agriculture, and twelve from the School of Commerce before entrance to the Senior College. In the selection of these preliminary courses students should secure the approval of the Department of Agricultural Economics, and of the Department in the School of Agriculture or the School of Commerce offering the technical courses which he will later elect as minor. These courses must be included to satisfy the requirements for a major in this field: Agricultural Economics 51, 101, 112, 113, 103, and Agronomy 117.

51. Principles of Agricultural Economics. A general course in the principles and problems of Agricultural Economics, including the production on the farm, consumption of the products of the farm, distribution of the agricultural income, and government policies towards agriculture. Prerequisites: Economics 50 and 51. Spring quarter. Three credits.

T. T. S. at 9.

Fuhrman

102. Farm Management—A general course in the principles of management applied to a farming enterprise. A study of the problems involved in choosing, buying, planning, organizing, and managing a farm. Discussions of proper size, balance, diversity, and economics of the farm business. A general course in agricultural economics and farm accounts should precede this course. Spring quarter. Three credits.

T. Th. S. at 8.

Fuhrman

103. Farm Accounts—The practical application of accounting principles to farm management problems. Modifications to suit the different types of farming enterprises will be studied. Assembling and interpretation of accounting data. Lectures and assigned practice problems. Fall quarter. Four credits.

Lectures T. Th. at 10. Lab. M. F. 2 to 5.

Peterson

104. History of Agriculture—Development of agriculture, with emphasis on social and scientific phases; the successive steps by which modern agriculture has attained its present status. Fall quarter. Three credits.

M. W. F. at 11.

Fuhrman

105. Agricultural Finance—A study of the credit needs of farmers, and methods of meeting these needs. This involves a study of bank credit and agriculture, the Federal Farm Loan Act, the Federal Intermediate Credit Act, Cooperative credit, and any new legislation needed to provide for financing adequately the farming business of the country. Prerequisite: General Economics 50, 51, and Agricultural Economics 51. Spring quarter. Three credits.

M. W. F. at 10.

Fuhrman

106. Land Economics—Principles underlying the utilization, valuation, tenure, and conservation of our land resources available for crops, pastures, and forests. Prerequisite: Agricultural Economics 51. Fall quarter. Three credits.

M. W. F. at 10.

Fuhrman

112. Marketing of Agricultural Products—Problems of marketing specific farm products such as livestock, grain, potatoes, hay, dairy products, etc., will be studied from the standpoint of the economic forces which give rise to such problems. Possibilities of improvement of the present system will be considered. Prerequisite: Agricultural Economics 51. Fall quarter. Three credits.

T. Th. S. at 9.

Fuhrman

113. Cooperation in Agriculture—The fundamental elements of successful cooperation for production and marketing, purchase of supplies, storage and manufacturing of agricultural products. The experience of different parts of the world in relation to various types of products. Methods of organizations. Laws regulating cooperative movement. Winter quarter. Three credits.

M. W. F. at 11.

Fuhrman

115. Production Economics—The dynamic economic adjustments of individual and community resources of land, labor, capital, and entrepreneurial ability to their maximum utilization. Winter quarter. Three credits.

M. W. F. at 10.

Fuhrman

120. Agricultural Prices—Relationship between production and price of agricultural products; trends in prices of agricultural commodities in Utah and competing states, in comparison with prices of non-agricultural products; and price cycles in their relation to Utah's agriculture. Winter quarter. Three credits.

M. W. F. at 9.

Thomas

121. Marketing Utah Farm Products—Production and marketing trends in Utah and competing sections; geography of Utah's markets for agricultural products; and methods used in marketing farm products in Utah. Winter quarter. Three credits.

T. Th. S. at 8.

Thomas

190. Advanced Agricultural Economics—(Not given 1928-29).

Fuhrman

191. Advanced Farm Management—(Not given 1928-29).

Fuhrman

192 Problems in Agricultural Marketing—(Not given 1928-29).

Fuhrman

211, 212, 213 Agricultural Economics and Farm Management Seminar—All seniors and graduate students majoring in this department are required to take part in these round table discussions of current problems and recent publications in Agricultural Economics and Farm Management. Fall, Winter, and Spring quarters. One credit each quarter.

Thursday at 2.

Fuhrman and Thomas

In addition to the above, several courses given in other departments will be acceptable for credit in Agricultural Economics and Marketing. The courses selected should receive the approval of the head of the department of Agricultural Economics and Marketing. A few of the courses available are listed herewith:

Forecasting—Business Administration 132.
Merchandising Problems—Business Administration 151, 152, 153.
Rural Sociology—Economics 101.
Rural Community Life—Economics 185.
Irrigation Institutions—Irrigation 107.
Cereal Crops—Agronomy 1.
Root Crops—Agronomy 2.
Forage Crops—Agronomy 3.
Seed Analysis and Testing—Agronomy 105.
Crop Products—Agronomy 119.
Market Types of Live Stock—Animal Husbandry 1.
Market Grades of Live Stock—Animal Husbandry 3.
Problems in Pedigreed Live Stock—Animal Husbandry 102.
Sheep and Wool Study—Animal Husbandry 109.
General Poultry—Poultry Husbandry 1.
General Farm Dairying—Dairy Husbandry 1.
Market Milk—Dairy Manufacturing 8.
General Horticulture—Horticulture 1.
Commercial Pomology—Horticulture 152*
Orchard Management—Horticulture 101.
Vegetable Production—Horticulture 104.
Systematic Pomology—Horticulture 151.

*If only one course in Horticulture can be taken, Commercial Pomology is suggested. If two, Horticulture 1 should be added.

AGRONOMY AND SOILS

GEORGE STEWART, Professor; D. W. PITTMAN, Associate Professor; A. F. BRACKEN, D. C. TINGEY, Assistant Professors.

Note: Students who major in Agronomy are expected to take Courses, 1 2 or 3, 106, 108, 109, 111, 113, 117 104 or 110; and one of these three; 114, 116, 119. Irrigation and Agricultural Economics 102 is recommended in the minor.

1. **General Crops**—The history, cultivation, production, and marketing of cereal crops; a basis for judging and grading plant products. Must be preceded or accompanied by Botany or Chemistry. Winter quarter. Four credits.

Lecture M. W. F. at 9. Lab. T. 2 to 5.

Bracken

2. **Root Crops**—Sugar-beets, potatoes, mangels, turnips, other root crops, and beans; cultural methods, market types, and commercial possibilities are studied in detail. Fall quarter. Four credits.

Lec. M. W. F. at 9. Lab. T., 2 to 5.

Tingey

3. **Forage and Miscellaneous Crops**—Alfalfa, clovers, grasses, and other forages; methods of handling hay; meadow and pasture management, and soiling crops, are discussed. Must be preceded or accompanied by Botany or Chemistry. Spring quarter. Four credits.

Lec. M. W. F. at 9. Lab. T., 2 to 5.

Tingey

101. **General Crops**—Essentials in the production of principal field crops; small grains, corn, potatoes, sugar-beets, alfalfa and pastures. Designed for those students not majoring in Agronomy who wish minimum work in crops. Courses 1, 2, or 3 are recommended for Agronomy majors instead of course 101. Prerequisites: Chemistry and Botany. Spring quarter. Four or five credits.

Lec. M. W. F. at 9. Lab. T., 2 to 5.

Pittman

104. **Weeds, Seeds and Grading**—Common weeds of Utah and methods of eradicating them; the quality and care of seeds; market classes and grades of grain, seeds, hay, and potatoes. Prerequisites: Botany, Agronomy 1, and 2 or 3 (or 101); some horticulture preferred. Fall quarter. Three credits.

Lec. Th. at 1. Lab. W., 2 to 5, and one other Lab. at student's convenience.

Tingey

105. **Seed Analysis and Testing**—Impurities of farm and garden seeds; methods of analysis and testing; the inspection and marketing of seeds. Prerequisites: Botany, Agronomy 1, 2, (or 101). Not given except on application of two or more students who have open, during the week, the same two laboratory periods, of three hours each. Any quarter. Two or more credits. Two or more laboratory periods a week.

Time to be arranged.

Tingey

106. **Soils**—Review of the entire field of soils study; designed as a foundation course for all students of agriculture. Prerequisites: Chemistry 1, 2 (High school chemistry not adequate). Fall quarter. Four credits.

Lec. M. W. F. at 10. Lab. Th., 2 to 5.

Pittman

108. **Management of Arid Soils**—The composition, nature, and management of soils of arid regions; special attention to water relations, alkali, rotations, and other problems in the management of arid soils. Prerequisites: Agronomy 106 and either Geology 102 or Bacteriology 1, preferably both. Winter quarter. Four or more credits.

Lec. M. W. F. at 10. Lab. Th., 2 to 5.

Pittman

109. Plant Breeding—Varieties of field crops; their selection and improvement; attention to the methods of plant breeding as practiced in America and Europe. Prerequisites: Genetics and Botany. Winter quarter. Four or more credits.

Lec. M. W. F. at 11. Lab. W., 2 to 5. *Stewart*

110. Soil Fertility—Principles of soil fertility; fertilizers and their most productive use; review of experimental work in America and Europe. Prerequisites: Chemistry 1, 2, and Agronomy 106. Spring quarter. Two or more credits.

Lec. M. W. at 10. *Pittman*

111, 112, 113. Seminar—Current agronomic literature; agricultural problems; assigned topics. Required of all seniors and graduates in agronomy; open also to juniors. Fall, Winter, and Spring quarters. One or two credits each quarter.

Friday, 2:10 to 3:30. *Staff*

114. History of Agriculture—Development of agriculture, with emphasis on social and scientific phases; the successive steps by which modern agriculture has attained its present states. Winter quarter. Two to five credits.

(Not given in 1928-29.)

116 Dry-farming—Principles of dry-farming from practical and scientific standpoints; a survey of agricultural work in the Great Plains and the Mountain regions; an analysis of the possibilities in typical climatic areas and on important soil types. Selecting and organizing a dry-farm unit. Advanced students may obtain additional credit for extra work. Winter quarter. Three lectures. Two to four credits.

T. Th. S. at 9. *Bracken*

117. Geography of Agriculture—Relation of geography to present agricultural development; where plant and animal products are produced; why only in the present regions; a survey of the United States with respect to possible new agricultural development; effect of the relative position of the large markets to agriculture, especially in Utah. Winter quarter. Two to five credits.

T. Th. S. at 10. *Stewart*

119. Crop Products—Nature, importance, and uses of various crop products; their physical and chemical nature; their effects on the market value of the crop; and their place in agricultural technology. Related soil problems are also discussed. Prerequisites: Organic Chemistry and Botany. Winter quarter. Three credits.

T. Th. S. at 11. *Bracken*

207. **Comparative Soils**—Soils of Utah; their origin, composition and agricultural value; soil provinces of the United States, especially those of the arid regions; the soil survey. Prerequisites: Agronomy 106, 108, and Geology 102, 103, 104. Spring quarter. Two or more credits in proportion to work done.

Lec. W. at 10. Lab. T. Th., 2 to 5.

Pittman

208. **Management of Arid Soils**—Special problems in the management of arid soils. Original papers are considered in addition to regular lectures and discussions. Winter quarter. Three to six credits.

Lec. M. W. F. at 10. Lab. T. Th., 2 to 5.

Pittman

209. **Advanced Plant Breeding**—The science and practice of plant breeding. Original papers and lectures. Winter quarter. Three to six credits.

Lec. M. W. F. at 11. Lab. W., 2 to 5.

Stewart

211, 212, 213. **Graduate Seminar**—Current scientific papers and topics in Agronomy. Fall, Winter, or Spring quarter. One to three credits.

Friday, 2:10 to 3:30.

Staff

214. **History of Agriculture**—Development of scientific agriculture with emphasis on recent period. Original papers and lecture material. Winter quarter. Two to five credits.

(Not given in 1928-29).

215. **Plant Production**—Recent experimental information on plant production and soil management; analysis of research methods; classification of important varieties of field crops, reviews of the scientific literature. Prerequisites: at least one course in botany, agronomy, and bacteriology or geology. Open to approved senior college students. Spring quarter. Two to five credits.

T. Th. at 11.

Stewart

217. **Geography of Agriculture**—Relation of geography to production and to development of agriculture. Winter quarter. Two to five credits.

T. Th. S. at 10.

Stewart

218. **Special Soil Problems or Advanced Laboratory**—Students desiring to do advanced laboratory work, or to make a special study of any particular soil problem will make a complete study of available literature on this problem under supervision of the instructor and write a thesis. One to five credits. Prerequisites: Agronomy 106, and either General Bacteriology or General Geology. Any quarter.

Staff

220. ***Dynamic Soil Process**—The soil will be treated as a natural body developed through the operation of a definite moisture-temperature history. The soil profile, soil horizon, soil morphology, and soil colloids will be considered as indices to the age and properties of the soil. The zonal distribution of soils will be emphasized. Spring quarter. Two credits. Seniors admitted on approval.

Lec. T. Th. at 8.

Jennings

230. **Research and Thesis**—Organizing and prosecuting a thesis, or a research problems without thesis. Any quarter. Two or more credits each quarter.

Stewart, Bracken, Tingey, Pittman, Jennings

SUGGESTED COURSES

FRESHMAN YEAR

(Agronomy)

	F.	W.	S.
Agron. 2, 1, 3.....	Root Crops, Cereals, Forage	4	4
Botany 21, 22.....	Ag'l Botany	5	--
Eng. 10, 11, 12.....	Freshman Comp.	3	3
Bact. 1 and 2.....	Gen. Bacteriology	--	5
An. Hus. 1.....	Judging	5	--
Dairy 2.....	Gen. Farm Dairying	--	4
Poultry 1.....	Gen. Poultry	--	--
	<hr/>	<hr/>	<hr/>
	17	16	16

SOPHOMORE YEAR

(Agronomy)

Chem. 3, 4, 26.....	Inorganic & Organic	5	5
Ent. 13, 14.....	Gen. & Ec. Entomology	4	--
Zool. 1.....	Gen. Zoology	--	5
Econ. 50.....	Gen. Economics	--	3
Econ. 51.....	Ag'l Economics	--	3
A. E. 12.....	Irrigation and Drainage	--	--
A. E. 13.....	Farm Motors	3	--
Hort. 1.....	Gen. Hort.	5	--
Language group.....	Course optional	--	3-5
	<hr/>	<hr/>	<hr/>
	17	15-17	16

*Student who are interested in technical study may be assigned to Experimental Station laboratories where they will be under the direction of the man in charge.

JUNIOR YEAR

(Agronomy)

	F.	W.	S.
Geology 2, 3, 4.....Gen. Geology	3	3	3
Zool. 111.....Genetics	5	--	--
Agron. 106, 108, 110.....Soils	4	4	2
Agron. 104.....Weed seeds, grading.....	--	--	3
Agron. 114 or 117.....History or Geography of agriculture	--	3	--
An. Husb. 103.....Practical Feeding	--	5	--
Dairy Hus. 110.....Dairy Production	--	--	4
Electives	5	2	5
	<hr/> 17	<hr/> 17	<hr/> 17

SENIOR YEAR

(Agronomy)

	F.	W.	S.
Agron. 111, 112, 113.....Seminar	1	1	1
Agron. 117 or 114.....Geography or history of Agri. ..	--	3	--
Agron. 109.....Plant breeding	--	4	--
Agron. 119.....Crop Products	--	3	--
Ag. Ec. 102.....Farm Administration	--	--	3
Botany 130.....Plant Pathology	4	--	--
Hort. 102.....Orchard Management	--	--	4
An. Hus. 105.....Livestock Breeding	--	--	5
Agron. 116.....Dry Farming	--	3	--
Ag. Econ. 111.....Marketing	3	--	--
English 125, 126.....Journalism	2	2	--
Electives	7	--	4
	<hr/> 17	<hr/> 16	<hr/> 17

ANIMAL INDUSTRY SECTION

The Animal Industry Section includes the courses of instruction in the closely related special departments of Animal Husbandry, Dairy Husbandry, Dairy Manufacturing, Poultry Husbandry, and Veterinary Science.

ANIMAL HUSBANDRY

KENNETH C. IKELER, GEORGE B. CAINE, Professors;
A. C. ESPLIN, HARRY H. SMITH, Assistant Professors.

The Department of Animal Husbandry offers instruction in the Selection, Breeding, Feeding, Management, and Marketing of cattle, horses, sheep, and swine; in the slaughtering, cutting, and curing of meats, and in the study and quality of wool.

The following courses should be taken by students who major in Animal Husbandry: 1, 2, 3, 10, 11, 101 or 102, 103, 104, 105, 107, D. H. 109 or 110, and Animal Husbandry Seminar. Courses in Dairy Husbandry, Dairy Manufacturing, Poultry Husbandry, and Veterinary Science may be used to strong advantage in the major. Accounting, Agronomy, Agricultural Economics and Marketing, Bacteriology, Botany, Commercial Law, Entomology, Farm Mechanics, Geology, Horticulture, Irrigation, Organic Chemistry, and Range are among the supporting courses most strongly recommended for graduation in Animal Husbandry.

1. Market Types of Live Stock—The score card and comparative judging of the market grades of commercial cattle, horses, swine, and sheep. Five credits.

Sec. 1, Fall, Lec. M. W. F. at 10.

Lec. and Lab. T. Th., 2 to 4.

Smith

Sec. 2, Fall, Lec. T. Th. S. at 10.

Lec. and Lab. W. F., 2 to 4.

Caine

Sec. 3, Winter, Lec. M. W. F. at 10.

Lec. and Lab. W. F., 2 to 4.

Caine

2. Breed Types of Live Stock—The origin, History, characteristics and selection of the economic breeds of horses, cattle, sheep, and swine. Winter quarter. Five credits.

Lec. Daily except Sat. at 10.

Ikeler, Caine and Esplin

Four large silver cups have been given to the Animal Husbandry Department by progressive breeders of horses, beef cattle, sheep and hogs respectively. Each spring quarter judging contests will be held in these classes, the winning student to have his name and year engraved on the cup won. Eligible students must have completed Animal Husbandry 1, and Animal Husbandry 2 within eighteen months of the contest. No student may compete more than once for the same cup.

3. Market Classes and Grades of Live Stock—The commercial classes and grades of market cattle, sheep and hogs. Students will compile market quotations and will classify and evaluate animals for market. Prerequisite: A. H. 1 or 2. Spring quarter. Three credits.

Lec. and Lab. W. F., 2 to 4.

Smith

4. Market and Breed Types of Livestock (For Forestry and Range Students)—The practical selection and judging of commercial and breed types of horses, cattle, sheep and hogs. Spring quarter. Three credits.

Lec. M. at 10. Lec. and Lab. T. Th., 2 to 4.

Smith

6. Beef Cattle Production—The selection, feeding, and marketing of range and feeder cattle, and the management of the breeding herd of beef cattle. This course includes a trip to Ogden and Salt Lake Stock Yards for study purposes. Fall quarter. Three credits.

Lec. T. Th. S. at 9.

Smith

7. Horse Husbandry—A study of market types and the breeding, feeding, handling and selling of draft and light horses. Spring quarter. Three credits.

T. Th. S. at 9.

Caine

8. Swine Management—The management of the breeding herd of hogs, feeding for market, and the fitting for show. The relation of the industry to dairy cattle farming. Winter quarter. Three credits.

T. Th. S. at 9.

Smith

9. Sheep Husbandry—A study of the methods of producing sheep for meat and wool under range and farm conditions. Also a study of sheep husbandry of the leading sheep producing countries of the world. Special emphasis is placed upon sheep and wool production upon the ranches and the farms. The farm sheep include small commercial herds, pure bred herds, and winter lamb feeding. Winter quarter. Three credits.

T. Th. S. at 9

Esplin

10. Wool Study—A history of sheep and wool production. A study of zoological position of sheep, and the physical and chemical structure of the wool fiber. The grading of wool, shrinkage, and a study of market reports. A study of the relation of quality in raw wool to quality in manufactured woolen products. Prerequisites: Chemistry 1 and 2, or 3, 4, and 5. Winter quarter. Three credits.

Lec. T. Th. at 11. Lec. and Lab. T. or Th., 2 to 4. Esplin

11. Farm Meats and Meat Products—The slaughtering of farm animals and the cutting and curing of meats on the farm. Trips will be taken to local meat shops and to the Ogden and Salt Lake Packing houses. The students will evaluate the animals on foot and measure their judgment in the dressing per cent, and quality of the product in the carcass. Winter quarter. Three credits.

Sec. 1, Lec. and Lab. T. Th., 2 to 5.

Sec. 2, Lec. and Lab. W. F., 2 to 5.

Smith

100. Principles and Practices of Judging Livestock—This is a course designed for students that wish to register for Animal Husbandry 107 and become candidates for the livestock judging team the following fall. Spring quarter. Two credits.

Lec. and Lab. Th., 2 to 5.

Smith

101. Livestock Management—Instruction and practice in the feeding and fitting of horses, cattle, sheep, and hogs for show or sale. A show of college livestock and an auction sale will be a part of this course. Spring quarter. One to three credits.

Lec. and Lab. M. W., 2 to 5.

Caine, Smith and Esplin

102. Problems in Pedigreed Live Stock—This course emphasizes the characteristics essential in the animal breeder for constructive and financial success in producing pure bred animals. The business aspects, capital involved, the purchasing of foundation stock and the production, conditioning, advertising and selling of pedigreed stock. Fall quarter. Three credits.

M. W. F. at 9.

Ikeler

103. Feeds and Feeding—The principles of feeding and how animals digest and utilize feed. The balancing of rations and the feeding of horses, cattle, sheep, and hogs for economical production. Winter quarter. Five credits.

Daily except Sat. at 8.

Smith

104. Animal Nutrition—The anatomy and physiology of the digestive tract. Digestion, metabolism, and energy balances. The essential vitamins, deficiency diseases, and the value of minerals in an adequate ration. Prerequisites, Organic Chemistry and Veterinary Physiology. Spring quarter. Five credits.

Daily except Sat. at 8.

Ikeler

105. Livestock Breeding—The principles and practices of livestock improvement. A study of heredity, variation, selection, breed analysis, and herd synthesis, inbreeding, outcrossing, and cross breeding. Prerequisite, Zoology 111, (Genetics). Spring quarter. Five credits.

Daily except Sat. at 9.

Ikeler and Smith

106. Herd Book Study—The tracing of livestock pedigrees from herd books. Problems in pedigrees, methods of breeding, leading tribes and families. Spring quarter. Three credits.

Lec. M. at 8.

Lab. at convenience of students.

Smith

107. Advanced Stock Judging—The comparative judging of breeding and market horses, cattle, sheep, and swine to prepare students for officiating at livestock shows. Herds away from the college will also be studied for the purpose of selecting a livestock judging team. Fall quarter. Four credits.

Lec. and Lab. M. W. F., 2 to 5.

Caine, Esplin, Smith

109. Wool—This course is a study of wool as a finished product of the ranch and farm, considering the fleece as a unit. The study includes the physical and chemical properties of the wool fibre, grading and sorting, explanation of terms used in market reports, and determination of shrinkage. Consideration is given the world wool supplies as fleece wools, pulled wools and reworked or shoddy wools. Visits to Logan City Knitting factories and Brigham City Woolen Mills are included. Prerequisites: Chemistry 1, 2 or 3, 4, 5. Winter quarter. Three credits.

Lec. M. W. at 11.

Lec. and Lab. M. or W., 2 to 4.

Esplin

110. Selection of Meats for the Household—A study of the principles and practice in the selection of quality meats for the table. This course is open for women students. Winter quarter. Two credits.

W. F. at 10.

Smith

111. **Scientific Meat Studies**—A study in the cutting and curing of meats; for Senior College students. It emphasizes the physical structure and the chemical composition of meats, and their relationship to nutritional qualities. Prerequisites: Animal Husbandry 11, and Organic Chemistry. Winter quarter. Two credits.

Lec. T. Th. at 11.

Smith

120, 121, 122. **Animal Husbandry Seminar**—Reports and discussion of current literature and research in Animal Husbandry, by students and faculty members. Fall, Winter and Spring quarters. One credit each quarter.

M. at 1.

Caine, Esplin, Smith

200. **Graduate Research**—Students working toward a graduate degree in Animal Husbandry are required to conduct research in some branch of the subject.

Time and credit by special arrangement. An. Husb. Staff

205. **Animal Production**—This is a survey of the research conducted in the breeding and feeding of livestock. Prerequisites, Animal Husbandry 104 and 106. Spring quarter. Three credits.

M. W. F. at 11.

Ikeler, Esplin, Smith

210. **Graduate Thesis**—The outlining, prosecuting and summarizing of Animal Husbandry research data for a thesis. Two to five credits each quarter.

An. Husb. Staff

SUGGESTED COURSE FOR STUDENTS MAJORING IN ANIMAL HUSBANDRY

FRESHMAN YEAR

(Animal Industry)

		F.	W.	S.
Botany 21, 22.....	Ag'l Botany	5	5	--
Bacteriology 1 and 2.....	Gen. Bacteriology	--	--	5
English 10, 11, 12.....	Eng. Composition	3	3	3
Vet. Science 10.....	Veterinary Elements	--	4	--
An. Husb. 1.....	Market Types of Stock.....	5	--	--
An. Husb. 3.....	Classes and Grades.....	--	--	3
Dairy 2.....	Farm Dairying	--	--	--
Poultry 1.....	Gen'l Poultry	--	--	4
Ag. Eng. 13.....	Farm Motors	4	--	--
Electives .....	.....	--	1	2
		<hr/> 17	<hr/> 17	<hr/> 17

SOPHOMORE YEAR (Animal Industry)

	F.	W.	S.
Chem. 3, 4.....Inorganic Chem.	5	5	..
Chem. 26.....Organic Chem. ....	..	..	5
Zoology 1.....Gen'l Zoology .....	..	..	5
Econ. 50.....Gen'l Economics	3	..	..
Agr. Econ. 51.....Econ. of Agriculture.....	..	..	3
An. Husb. 2.....Breed Types .....	..	5	..
An. Husb. 11.....Meat Products .....	..	3	..
Agron. 1, 2.....Cereal Roots	4	4	..
Hort. 1.....Gen'l Horticulture	5	..	..
Ag. Eng. 12.....Irrigation & Drainage.....	..	..	3
Electives .....	..	..	1
	17	17	17

JUNIOR YEAR (Animal Industry)

Entomology 13.....Gen'l Entomology	4	..	..
English 125, 126.....Agr. Journalism	2	2	..
Zoology 111.....Genetics	5	..	..
An. Husb. 101.....Live Stock Management.....	..	..	3
An. Husb. 105.....Animal Breeding .....	..	..	5
An. Husb. 111, 100.....Meats and Judging.....	..	2	2
An. Husb. 9 or 109.....Sheep and Wool.....	..	3	..
Dairy Husb. 109.....Milk Production .....	..	3	..
Poultry Husb. 105.....Management .....	..	3	..
Vet. Science 107.....Infectious Diseases .....	..	..	4
Agronomy 106, 117.....Soils and Geography.....	4	4	..
Agr. Econ. 102.....Farm Adm. ....	..	..	3
Electives	2	..	..
	17	17	17

SENIOR YEAR (Animal Industry)

Agri. Econ. 111.....Marketing	3	..	..
Eng. & Language.....Elective	6	4	4
Accounting.....Farm Accounts .....	..	..	3
Agronomy 109.....Plant Breeding .....	..	4	..
An. Husb. 120, 121, 122.....An. Husb. Seminar.....	1	1	1
An. Husb. 107.....Adv. Judging	4	..	..
An. Husb. 103.....Feeds & Feeding.....	..	5	..
An. Husb. 104.....Animal Nutrition .....	..	..	5
An. Husb. 6, 7, or 8.....Beef Cattle, Horses and Hogs	3	3	..
Range or Hort.....Management .....	..	..	4
	17	17	17

DAIRY HUSBANDRY

GEORGE B. CAINE, Professor

Student majoring in Dairy Husbandry must complete the following major courses for graduation: Dairy 1 or 2, Dairy 8, Animal Husbandry 1, 103, 104, 105, 107, as well as all courses listed in the Department of Dairy Husbandry. Agronomy 109 can replace a major course. Courses in Chemistry, Bacteriology, Botany, Crops, Accounting, Advertising, English, and Mechanics should be followed carefully to fill other groups.

1. General Farm Dairying—Designed for the student who desires a short, complete, general course in dairying. The following will receive consideration in this study:

History and present status of the dairy industry in the world, the United States, and Utah. Adaptability of various sections for dairying. Factors necessary for profitable production, manufacturing, and marketing. The relation of dairying to other industries and to human welfare. Present outlook for the dairy industry.

Methods of starting dairy herds. Breeds of cattle. Cow testing associations and testing circles. Bull associations, advanced registry, boys and girls clubs, herd records. Dairy barns, milk houses, and miscellaneous equipment. Kinds, uses, and care of milking machines, separators and cream coolers, milking pails, strainers. Methods of producing and caring for milk on the farm, separation of milk and farm manufacture of butter, ice cream, and cottage cheese. Utilization of dairy by-products.

Secretion and composition of milk. Factors affecting the chemical and physical properties and the flavor and odor of milk. Relation of micro-organisms to milk and dairy products. Methods of preservation of milk and dairy products—cooling, pasteurization, sterilization, and drying—and factors influencing their keeping quality. Testing milk and cream for chemical composition and sanitary purity. Judging dairy products for flavor and general market quality. Healthfulness, food value and yearly consumption of milk and dairy products. Educational campaigns. Fall quarter. Four credits.

Lec. T. Tb. S. at 9.

Lab. T., 2 to 5.

Caine and Wilster

2. General Farm Dairying—In addition to the subjects listed under Dairy Husbandry 1 this course will include: Marketing of milk and cream, (a) selling to milk plant, creamery, or other dairy establishment; (b) selling direct to retailers or consumers. Comparison of

costs and returns obtained with different methods of marketing. Transportation of milk and cream. Value and utilization of skim milk, whey and buttermilk. Winter quarter. Four credits.

Lec. T. Th. S. at 11.

Lab. T., 2 to 5.

Caine and Wilster

12. **Breeds of Dairy Cattle**—Study of history and development of all breeds of dairy cattle. Special emphasis on the various families within the breeds. Requirements for official testing. Pedigree and Herd Book study. Winter quarter. Four credits.

Lec. T. Th. S. at 9.

Lab. Th., 2 to 5.

Caine

109. **Dairy Production**—A brief review of dairy farming, and the dairy breeds. Ways of starting a dairy herd, system of herd records, selection and management of herd sires, calf feeding and management, developing dairy heifers. Winter quarter. Three credits.

Lec. M. W. F. at 11.

Caine

110. **Dairy Production**—A study of purebred cattle breeding. Care and management of dairy cows. Feeding for milk production, study of the characteristics of feeds and feeding standards, housing dairy cattle. Prerequisite: Dairy Production 109. Spring quarter. Four credits.

Lec. M. W. F. at 11.

Lab. Th., 2 to 5.

Caine

111. **Dairy Cattle Judging**—A study of the types of the various breeds of dairy cattle. Visits to important herds. Valuation of dairy cattle. Prerequisites, Animal Husbandry 1 and 2, or Dairy Husbandry 12. Spring quarter. Two credits.

Lab. W. F., 2 to 5.

Caine

115 **Seminar**—Discussion and reports of current literature.

Time and credit to be arranged.

216. **Research**—Special problems in connection with dairy production. Breeders or Feeding of dairy cattle. For seniors and graduate students.

Credit will be granted according to work done.

Time and credit to be arranged.

DAIRY MANUFACTURING

GUSTAV WILSTER, Professor

Students majoring in Dairy Manufacturing must complete the following courses: Dairy 1 or 2, 3, 4, 5, 6, 7, 8, 101, 102, and 105. In addition, at least 8 credits must be obtained in Dairy 6. Students intending to major in Dairy Manufacturing should present an approved plan of study to the Dean of the School of Agriculture not later than the beginning of the Junior year. Students are advised to select a minor course of study in one of the following subjects: Animal Husbandry, Dairy Husbandry, Chemistry, Bacteriology, Engineering, or Commerce. Students are strongly recommended to spend at least six month in a dairy manufacturing establishment before graduation.

3. **Dairy Mechanics**—A study of the most common mechanical devices used in dairy manufacturing plants. Installation and operation of steam plants. Cost of producing steam. Cost of various kinds of motive power. Spring quarter. Two credits.

Lec. T. Th. at 11.

Powell and Wilster

Other hours may be arranged to suit the convenience of students.

4. **Manufacture of Ice Cream and Ices**—Purchase of raw materials. Standardizing and processing. Standard commercial ice creams and ices will chiefly be considered. Registration for one credit in Creamery Operation must accompany this course. Spring quarter. Two credits.

Lec. T. Th. at 8.

Wilster

5. **Testing and Judging Milk and Milk Products**—Advanced testing, standardizing, and judging of dairy products. Inspection methods. Prerequisite: Dairy 1 or 2. Spring quarter. Two credits.

Lec. T. at 10.

Lab. Th., 2 to 5.

Wilster

6. **Creamery Operation**—Receiving and processing milk and the manufacture of butter, cheese and ice cream in the College creamery. All quarters.

Hours and credit to be arranged.

Wilster

7. **Technology of Dairy Products**—A detailed study of the production and handling of milk from the hygienic viewpoint. Contamination of milk and milk products. Fermentations of milk. Preparation of starters and milk drinks. Methods used to improve the quality of dairy products. Preservation of dairy products. Winter quarter. Three credits.

Lec. M. W. F. at 9.

Wilster

8. **Market Milk**—Modern sanitary methods of producing, processing and marketing milk for city milk supply. Separation of milk and standardizing cream. Fall quarter. Two credits.

Lec. T. Th. at 10.

Wilster

101. **Manufacture of Butter**—Receiving and grading milk and cream. Manufacture of butter under creamery conditions. Registration for one credit in Creamery Operation must accompany this course. Winter quarter. Three credits.

Lec. M. W. F. at 8.

Wilster

102. **Manufacture of Cheese**—Receiving and grading milk. Manufacture of American cheddar, and various other standard varieties of cheese. Fall quarter. Five credits.

Lec. M. W. F. at 9.

Lab. M., 11 to 5.

Wilster

103. **Manufacture of Condensed and Dried Milk**—Purchase and grading of milk. Modern methods of manufacture. Winter quarter. Two credits.

Lec. T. Th. at 8.

Wilster

104. **Special Problems**—A course for students wishing to study certain phases of dairy manufacturing. Assigned readings and laboratory work in the processing of milk and manufacturing of dairy products. Any quarter.

Hours and credit to be arranged.

Wilster

105. **Management of Dairy Manufacturing Plants**—Forms of organization of dairy manufacturing enterprises. Construction and maintenance of dairy buildings. Principles underlying the successful management. Advertising and Marketing dairy products. Accounting records. Visits will be made to dairy establishments in surrounding territory. Spring quarter. Three credits.

Lec. M. W. F. at 9.

Wilster

201 **Research**—Research in the manufacture of dairy products. Credit to be arranged.

Wilster

POULTRY HUSBANDRY

BYRON ALDER, Professor

1. **General Poultry**—A study of breeds, judging, breeding, incubation, brooding, housing, feeding, and marketing. Designed to meet the needs of students wishing a general knowledge of the poultry industry and the problems of production, and a foundation upon which other courses are built. Winter or Spring quarter. Four credits.

Lec. M. W. F. at 11. Lab. M., 2 to 5. Alder

2. **General Poultry**—Same as Poultry 1, except that no laboratory is given. Winter or Spring quarter. Three credits.

M. W. F. at 11. Alder

3. **General Poultry**—The course is planned to meet the needs of Home Economics students. Not given unless six students apply. Spring quarter. Two credits.

T. Th. at 10. Alder

4. **Incubation and Brooding**—Practice work with incubator and a study of the factors which influence the hatching quality of eggs and the raising of chicks. Prerequisite: Poultry 1. Spring quarter. Two credits.

M. W. at 9. Alder

8. **Turkey Raising**—A study of the breeds, breeding, feeding, marketing, etc. Winter quarter. Two credits.

T. Th. at 10. Alder

105. **Poultry Management**—The housing, care, feeding, and management of different breeds under western conditions. Prerequisite: Poultry 1. Winter quarter. Three credits.

M. W. F. at 9. Alder

106. **Breeds and Breeding**—The origin and development of the breeds and varieties of poultry; practice in judging; a review of the literature on breeding for utility and exhibition. Prerequisite: Poultry 1. Winter quarter. Three credits.

(Not given in 1928-29.)

107. **Poultry Feeds and Feeding**—A study of nutrition problems; the feeds and methods of feeding. Prerequisite, Poultry 1 or 2. Winter quarter. Three credits.

M. W. F. at 10. Alder

125. **Research**—Research work in special problems. Prerequisites: Poultry 1 and 4.

Time and credit to be arranged.

126. **Seminar**—Current poultry literature studied; assigned problems and special topics. Winter quarter. One credit.

T. at 1.

Alder

127. **Poultry Practice**—Special practice at the poultry yards.

Time and credit to be arranged.

Alder

VETERINARY SCIENCE

H. J. FREDERICK, Professor

10. **Veterinary Elements**—Introduction to anatomy and physiology and the common ailments of domestic animals; the most prevalent diseases, their distribution, causes, symptoms, course, diagnosis, and treatment; observation and practice in the free weekly clinics. Fall or Winter quarter. Four credits.

Fall, Lec. T. Th. S. at 8. Clinic M., 2 to 5.

Winter, Lec. M. W. F. at 10. Clinic M., 2 to 5. Frederick

15. **Indications of Disease in Animals**—General appearance, nursing, restraint, conformation and soundness, and post-mortem demonstrations. Winter quarter. Three credits.

Lec. T. Th. S. at 9.

Frederick

20, 21, 22. **Comparative Anatomy**—Especially for students in agriculture and animal husbandry; also students wishing to follow veterinary science. This course is supplemented with practical work in discussion, and illustrated by skeletons and models. Fall, Winter, and Spring quarters. Three credits each quarter.

Given if ten students apply.

Frederick

40, 41, 42. **Physiology**—The vital functions of the different species of domestic animals and those of the human body are compared; the physical and chemical laws as related to physiology, the general properties of animal cells, their origin, development, and growth, special physiology of the various organs and tissues of the animal body. Fall, Winter, and Spring quarters. Three credits each quarter. Any or all quarters may be taken.

M. W. F. at 9.

Frederick

Given if ten students apply.

50, 51, 52. **Clinics**—Free clinics at the hospital in which students of veterinary science must assist. The numerous cases represent all diseases common to this locality and furnish the clinic with abundant material for observation and practice. Hours and credits to be arranged. Fall, Winter, and Spring quarters.

Clinic M., 2 to 5.

Frederick

60. **Principles of Horse Shoeing**—The anatomy and physiology of the horse's foot; the form of the foot and the direction of the limb; variations in the flight of the foot; styles of going; shoeing of normal and irregular feet; winter shoeing; correction of defects in gait and methods of shoeing hoofs defective in form or diseased. Winter quarter; repeated Spring quarter. Three credits.

T. Th. S. at 9.

Frederick

70. **Poultry Diseases**—The common diseases affecting poultry in this region. Symptoms, diagnosis, prevention, and treatment. Lectures and practical demonstrations. Winter quarter.

T. Th. S. at 11.

Frederick

107. **Hygiene and Infectious Diseases**—A discussion of water and food supply disinfection, care and management of animals, and feeding of sick animals. The common infectious diseases prevalent here. Methods which should be adopted in their control and eradication. Tests applied for diagnosis, vaccination, and serum treatment of animals. Winter or Spring quarter. Four credits.

Sec. 1, Winter, T. Th. S. at 8. Lab. M., 2 to 5.

Sec. 2, Spring, M. W. F. at 10. Lab. M., 2 to 5. Frederick

118, 119. **Anatomy and Physiology**—A study of the form, structure, and functions of the animal body. Attention is given to all domestic animals and students are required to locate and point out the parts related to the form, movement and utility of the animal. Fall and Winter quarters. Three credits each quarter.

(Not given 1928-29.)

120. **Sanitary Inspection**—Inspection of slaughter houses, packing houses, butcher shops, etc., and means of detection of communicable diseases and spoilage in meat products. Prerequisite: Bacteriology 2. One quarter. Three credits.

Given if ten students apply.

130, 131. **Obstetrics**—Obstetrical anatomy, reproduction, hygiene of pregnant animals. Obstetric operations, accidents of parturition, and diseases of the new-born. The college herd and the surrounding stock breeding community give ample opportunity for practical work. Winter and Spring quarters. Two credits each quarter.

(Not given in 1928-29.)

BOTANY

B. L. RICHARDS, Professor; F. B. WANN, R. J. BECRAFT, Associate Professors; *H. L. BLOOD, KATHLEEN L. HULL, Instructors; C. M. TOMPKINS, Associate Pathologist, United States Department of Agriculture.

Botany 21, 22, 23, 30, 120, 121, 130, 131, 240 or equivalent, required for students majoring in Botany.

1. **General Botany**—A brief study of the nature and development of plants; plant parts and their functions; the food of plants; the relation of plants to human needs. Five credits each quarter. Fall or Spring quarters.

*Sec. 1, Fall, Lec. M. W. F. at 9. Lab. and Demonstration
T. Th., 2 to 5. Hull*

*Sec. 2, Spring, Lec. M. W. F. at 9. Lab. and Demonstration
M. W. or T. Th., 2 to 5. Richards and Hull*

*Sec. 3, Spring, Lec. T. Th. S. at 9. Lab. and Demonstration
as in Sec. 2. Richards and Hull*

21, 22, 23. **Agricultural Botany**—A general course dealing with the structure, growth, nutrition and reproduction of plants. The Spring quarter is devoted chiefly to a general survey of the major plant groups from the standpoint of classification and relationships, with emphasis on the plants of economic importance. Designed especially for students in Agriculture. Required for a major or minor in Botany. Fall, Winter, and Spring quarters. Five credits each quarter. Students may register for Botany 22 and 23 without Botany 21 by permission only.

*Sec. 1, Lec. M. W. F. at 8. Sec. 2, Lec. T. Th. S. at 8. Labs.
for both sections, M. and Th., or W. and F., 2 to 5. Wann*

30. **Systematic Botany**—Fundamentals of plant classification, with emphasis on flowering plants, especially economic groups. Individual practice with botanical keys. Prerequisite, Botany 1 or 21, 22, 23 or equivalent. Spring quarter. Three credits.

Lec. W. F. at 10. Lab. T., 2 to 5. Becraft

102. **Systematic Botany**—A continuation of course 30. Individual work with particular families or floras. Summer quarter. Two or three credits.

Time to be arranged. Becraft

*Absent on leave.

105. **Agrostology**—The grasses: Structure, classification and economic relationships. Prerequisite: Botany 30. Winter quarter. Two credits.

Lec. T. at 11. Lab. T., 2 to 5.

Becraft

111. **Plant Morphology**—Life histories and structural relationship of plants representative of the four big groups. The course is so organized as to give a broad view of the processes of evolution. Spring quarter. Three lectures and two laboratory periods. Five credits.

(Not given in 1928-29.)

116. **Histological Technique**—Methods of killing and preserving botanical specimens and the preparation of permanent sections of plant material. Designed especially for teachers of Botany and research students.

Time to be arranged.

Richards and Wann

120. **Elementary Plant Physiology**—A course dealing with fundamental principles of the development of the plant in relation to its environment, including a study of absorption, nutrition, food manufacture, metabolism, translocation and growth. Special emphasis is placed on water relations, light and temperature. Prerequisites: Botany 21, 22, 23. Should be preceded or accompanied by organic chemistry. Winter quarter. Five credits.

Lec. T. Th. S. at 9. Lab. T., and one period by arrangement.

Wann

121. **Advanced Plant Physiology**—Continuation of 120. Special topics in nutrition, toxicity, stimulation, enzyme action, fermentation and respiration. Prerequisite: Botany 120. Spring quarter. Two credits.

Lec. T. Th. at 9.

Wann

124. **Plant Chemistry**—Chemical reactions and transformations underlying the vital processes in plant life. Alternates with 121. Four credits.

(Not given in 1928-29.)

Wann

126. **Plant Ecology**—Distribution and structural adaptation of plants as affected by environmental factors. Occasional field trips. Prerequisites, Botany 120 and 121. Fall quarter. Four credits.

Lec. T. Th. S. at 9. Lab. T.

Becraft

130, 131 **Plant Pathology**—Fundamental principles underlying diseases in plants. Types of diseases are so studied as to give the student a comprehensive view of the subject of plant pathology. Field and orchard crops diseases will receive particular attention during the Winter quarter, with laboratory so arranged as to permit students to select such diseases as will best support their major interests. Prerequisites: Botany 1 or 21, 22, 23. Fall and Winter quarters. Four credits each quarter.

Lec. T. Th. at 11. Lab. M. F., 2 to 5.

Richards

133. **Forest Pathology**—Consists of a detailed study of the nature, cause, and control of the various diseases underlying decay of forest timber. Special attention will be given also to industrial problems connected with the staining, rotting, and preservation of wood in its various commercial forms. Winter quarter. Four credits.

(Not given in 1928-29.)

Richards

135. **Mycology**—Morphology and the taxonomic relations of fungi with emphasis on economic forms. Prerequisites, Botany 1 or 21, 22 and 23. Winter quarter. Four credits.

Time to be arranged.

Richards

221. **Photographic Technic**—Fundamental principles of photography as applied to advanced work in biology and plant pathology. Special attention is given to microphotography and lanternslide production. One lecture and two laboratory periods. Winter quarter. Three credits.

Time to be arranged.

Richards

222. **A continuation of course 221**—Special cultural methods as applied to Plant Pathology, Physiology, and related subjects. Students may register for course 221 and 222 only by special permission. Winter or Spring quarter. Two to five credits, according to work done.

Time to be arranged.

Richards and Wann

240, 241, 242. **Seminar**—Fall, Winter and Spring quarters. Two credits each quarter.

Time to be arranged.

Richards, Wann, Hull

250. **Research**—Open to all qualified Senior college students in Ecology, Physiology and Pathology.

Richards, Wann, Becraft, Hull

FORESTRY AND RANGE

L. F. WATTS, Professor; R. J. BECRAFT, Associate Professor;

....., Assistant Professor
Instructor.

The department of Forestry and Range was organized in 1927 as a result of a definite development of interest in the region for college trainage in this field. No other forestry school exists in the Inter-mountain Forest District, comprising Utah and large portions of adjacent states.

The course of study constitutes a standard four-year training, comparable to that of other standard forestry schools, and graduates are awarded the Bachelor's degree in forestry. The program of courses has been carefully outlined, with advices from U. S. Forest Service officials to pertinent subjects and competent personnel for instruction. The aim is to train men for private or government positions in (1) technical forest management, or the growing and protection of the timber crop, (2) technical management, and (3) administrative work involving both the above, in general, conservation of renewable resources, as forests, ranges, watersheds, game.

Originally it was planned that the freshmen of 1927-28 would be the first class graduated in Forestry (1931). Because of demand, however, arrangements are approved for offering the advanced courses a year ahead, and graduating eligible students in 1930. Graduation requirements include completion of the course substantially as outlined, and attendance at Summer Camp, the first session of which is tentatively planned for September, 1929.

Students who expect to compete for appointments to U. S. Forest Service positions should plan ahead for Civil Service examinations. The Forest Ranger examination is usually offered each year in October. Technical examinations for Junior Forester and Junior Range Examiner are held in March, and entrance requirements demand either four years college training or its equivalent in experience. The course of study has been outlined to prepare students for these examinations in their senior year.

Direct training in forestry is adequately supported by fundamental courses in the sciences (Mathematics, Physics, Chemistry, Geology), and other related fields, as Botany, Zoology, Entomology, Pathology, Surveying, English, etc. For outdoor forestry the Cache National Forest with headquarters at Logan offers an excellent laboratory, and will be utilized for direct contact with various forestry operations. The creditable diversity of tree species in and near Logan will be supplemented as rapidly as possible by a college arboretum. In addition, plans are under way for a nursery and for cooperation with the natural

government in tree distribution under the Clarke-McNary Act. Arrangements have already been made for special lecturers of the U. S. Forest Service from the district office at Ogden.

Because of location in an Agricultural College, the major in Range Management is strongly supported by course work in allied subjects, such as Botany (general, systematic, agrostology, physiology, ecology), Agronomy (including soils), Animal Husbandry (types and breeds, beef cattle and sheep management, animal nutrition), etc. The central position in the great western grazing region provides an ideal outdoor laboratory. This is attested by the location within the state of the Salina Experiment Station of the Bureau of Animal Industry for work with poisonous plants, and the Great Basin Experiment Station at Ephraim, the Forest Service station for research in Range Management.

1. **Elementary Forestry**—General survey of the profession, character of the work, relation of forestry to welfare of the state and nation. Fall quarter. Two credits.

Lec. T. Th. at 10.

Watts

6. **Mensuration I**—The methods of measuring felled timber and miscellaneous forest products. The theory of constructing the various log rules for determining the volume of logs and volume tables for determining the volume of standing trees. Methods and reasons for deduction for defects will be analyzed. Fall quarter. Four credits.

Lec. M. W. F. at 10. Lab. Th., 2 to 5.

Watts

7. **Mensuration II**—The measurement of stands of timber by various cruising methods, type mapping, timber survey reporting, investigation of growth study methods with relationship to timber survey work. Winter quarter. Four credits.

Lec. M. W. F. at 10. Lab. Th., 2 to 5.

Watts

51. **Elementary Range**—Survey of the range problem, development and history, grazing regions and resources, general outlook. Winter quarter. Two credits.

Lec. T. Th. at 10.

Becraft

100. **Seminar**—Current developments in forestry and range. Special lecturers, lantern slides, films. Non-credit course required of all forestry students.

Time and frequency to be arranged.

Watts and Becraft

102. **General Forestry**—General survey of forestry practice, regions, tree species, management, protection, local problems. Offered for non-forestry students. Three lectures, one laboratory.

(Not given 1928-29.)

111. **Dendrology I**—Characters and indentification of broad-leaved American trees, codes and keys with practical application to local species. Economic importance and distributional range of important species. Should be preceded by Systematic Botany. Fall quarter. Three credits.

Lec. Th. S. at 8. Lab. W. 2 to 5. Becraft

112. **Dendrology II**—Same as I except for Conifers. Winter quarter. Three credits.

Lec. Th. S. at 8. Lab. W. 2 to 5. Becraft

114. **Silvics (Silviculture I)**—A study of the silvical characteristics of the important timber trees of the United States together with an analysis of the factors responsible for the various groupings of species in the different forest regions. The climatic and edaphic requirements of trees. Fall quarter. Three credits.

Lec. M. W. F. at 11. Becraft

115. **Silviculture (Silviculture II)**—The care of the forest. Systems of marking timber for cutting so as to insure natural regeneration. Methods of thinning stands to stimulate the rate of growth. This course is designed to enable one to mark timber for cutting in the various types in an intelligent manner. Winter quarter. Three credits.

Lec. M. W. F. at 11. Watts

116. **Planting (Silviculture III)**—The reproduction or regeneration of forests by seeding and planting (artificial methods). The collection and storage of seed, nursery practice, and field planting. Spring quarter. Four credits.

Lec. M. W. at 11. Lab. M. W., 2 to 5. Watts

118. **Fire Protection**—The organization problem in fire protection, quickest and most satisfactory detection methods and the proper method of attack to control forest fires. The course is aimed to fit one to take a definite place in a fire organization. Three credits.

(Not given in 1928-29.)

119. **Wood Technology**—Structural and physical properties of economic woods and their indentification. Three credits. One lecture, two laboratory periods.

(Not given 1928-29.)

121. **Regulation (Forest Management I)**—Division of the forest into working units, choice of rotation, determination of yearly cut, frequency of returns, methods of utilization, relation to markets. Spring quarter. Three credits.

Lec. T. Th. S. at 11. Watts

122. **Valuation (Forest Management II)**—The value of the forest property for distinctive logging and for continued timber production. The appraisal of the value of timber and timber lands. The determination of damage due to the destruction of the forest by fire or other causes. The possibilities of forest insurance. The financial aspects of the business of growing forests. Four credits.

(Not given 1928-29.)

123. **Management Plans (Forest Management III)**—The preparation of management plans for private or government forests, based on an analysis of existing plans and hypothetical problems. Four credits.

(Not given 1928-29.)

125. **Logging (Forest Utilization I)**—Various methods of handling timber from the tree to the mill. The costs of the various steps in each method, where each is best suited and the effect on the remaining forest, together with the relation between logging methods and stumpage values. Three credits.

(Not given 1928-29.)

126. **Milling (Forest Utilization II)**—The manufacture of logs into lumber and other sawed products. The various types of mills in use with special attention to the portable or semi-portable types. Relative merits of air drying and kiln drying of lumber. Three credits.

(Not given 1928-29.)

127. **By-Products (Forest Utilization III)**—The manufacture of alcohol, turpentine, and other chemical products from wood; manufacture of pulp and paper; the use of preservatives to prolong the life of wood with special reference to farm timbers; and the adaptation of wood to commercial uses with comparisons to substitutes now in use. Three credits.

(Not given 1928-29.)

131. **Forests Economics and Policy**—The economic aspects of the development of forestry in America and other countries, forest ownership and taxation, relationship of forests to other industries.

(Not given 1928-29.)

136. **Related Resources**—The relationship of forestry to the water shed, wild life, with special reference to the perpetuation of these two related resources. Four credits. Three lectures, one laboratory period.

(Not given 1928-29.)

143. **Forestry Research**—For advanced students.

Time and credit by special arrangement.

Watts

Summer Camp—Four weeks. Following the sophomore year all students majoring in Forestry are required to spend four weeks in summer camp in a selected portion of the Intermountain region. The entire time will be devoted to field work in mensuration, silviculture, and utilization. Six hours credit for summer camp will be allowed.

The first summer camp is being planned for 1929.

For Forest Entomology see Zoology 109.

For Forest Pathology see Botany 133.

152. General Range—General survey of the field of Range Management. Designed for students of other departments wishing a general knowledge of Range. Four credits. Three lectures, one laboratory.

(Not given 1928-29.)

162. Range Management—The plant phase of the range problem. Native forage plants and their growth requirements, grazing periods and range readiness, overgrazing, revegetation and improvement, grazing capacity, poisonous plants. Should be preceded by General Botany. Three credits.

(Not given 1928-29.)

163. Range Livestock—The animal phase of the range problem. Adaptability of range to classes of livestock, and their management on summer and winter ranges. Prerequisite: Range 162. Three credits.

(Not given 1928-29.)

166. Range Management Plans—Detail of methods in range reconnaissance, assemblage and application of data, grazing management plans on government and on private ranges. Prerequisite: Range 163. Three credits.

(Not given 1928-29.)

176. Range Forage Plants—Native forage plants, their distribution, associations, palatability, economic value, methods for research. Prerequisite: Botany 101. Winter quarter. Five credits.

Time to be arranged.

Becraft

181. Range Economics—Development of the range industry, land utilization, control systems, range and ranch units, grazing resources and capacity, value of range forage, production costs of range livestock. Three credits.

(Not given 1928-29.)

193. Range Research—For advanced students.

Time and credit by special arrangement.

Becraft

OUTLINE OF COURSES IN FORESTRY AND RANGE

FRESHMAN

	F.	W.	S.
Agricultural Botany Bot. 21, 22, 23.....	5	5	5
Elementary Analysis Math. 20, 21, 22.....	3	3	3
	(or Math. 35, 36, 37)		
Freshman Composition Eng. 10, 11, 12.....	3	3	3
General Economics Econ. 1, 2, 3.....	3	3	3
Elementary Forestry Forestry 1	2	..	..
Elementary Range Range 51 .....	..	2	..
Market Types of Livestock.. An. Hus. 4.....	..	..	3
	16	16	17
Military Science Mil. Sci. 101, 102, 103....	1	1	1
Physical Education P. E. 1, 2, 3.....	1	1	1

SOPHOMORE FORESTRY

Systematic Botany Bot. 101 .....	..	..	3
General Zoology Zoo. 1 .....	..	..	5
General Physics Physics 1, 2.....	5	5	..
	(or Physics 20, 21)		
Inorganic Chemistry Chem. 3, 4, 5.....	5	5	5
Plane Surveying C. E. 81, 82.....	3	..	3
Mapping C. E. 83.....	..	3	..
Mensuration I, II..... For. 6, 7	4	4	..
	17	17	16
Military Science Mil. Sc. 201, 202, 203....	1	1	1
Physical Education P. E. 4, 5, 6.....	1	1	1

SOPHOMORE RANGE

Same as Sophomore Forestry, except substitute in Fall quarter Beef Cattle Management (An. Hus. 6) for Mensuration I.

JUNIOR FORESTRY

Forest Entomology Zoo. 109.....	3	..	..
Meteorology Physics 16	2	..	..
General Geology Geol. 102, 103, 104.....	3	3	3
Advanced Writing Eng. 108, 109.....	3	3	..
Dendrology I, II..... For. 111, 112.....	3	3	..
Silviculture I, II, III..... For. 114, 115, 116.....	3	3	4
(Silvics, Silviculture, Planting)			
Forest Protection For. 118 .....	..	..	3
Wood Technology For. 119 .....	..	..	..
Forest Regulation For. 121 .....	..	..	4
Range Management Range 162 .....	..	..	3
	17	15	17

SENIOR FORESTRY

	F.	W.	S.
Plant Ecology Bot. 126	4	..	..
Forest Pathology Bot. 133 .....	..	3	..
Scientific Vocabulary Eng. 9 .....	..	..	3
(or College Grammar, Eng. 106)			
Forest Management For. 122, 123.....	3	4	..
(Valuation, Mgt. Plans)			
Forest Utilization For. 125, 126, 127.....	3	3	3
(Logging, Milling, By-Products)			
Forest Economics & Policy... For. 131, 132.....	..	3	3
Related Resources For. 136 .....	..	..	4
(Watershed & Game)			
Range Livestock, Mgt. Plans... Range 163, 166	3	..	3
Soils Agrom. 106	4	..	..
Geography of Agriculture..... Agron. 117 .....	..	3	..
	17	16	16

JUNIOR RANGE

Plant Physiology Bot. 120, 121.....	..	5	2
General Geology Geol. 102, 103, 104.....	3	3	3
Advanced Writing Eng. 108, 109.....	3	3	..
Dendrology I, II..... For. 111, 112.....	3	3	..
Silviculture I, II, III..... For. 114, 115, 116.....	3	3	4
(Silvics, Silviculture, Planting)			
Forest Protection For. 118 .....	..	..	3
Range Management Range 162 .....	..	..	3
Livestock Feeding An. Hus. 102.....	5	..	..
	17	17	15

SENIOR RANGE

Plant Ecology Bot. 126	4	..	..
Genetics & Eugenics Zoo. 111, 112.....	5	..	3
Scientific Vocabulary Eng. 9 .....	..	..	3
(Or College Grammar, Eng. 106)			
Forest Economics & Policy... For. 131, 132.....	..	3	3
Related Resources For. 136 .....	..	..	4
(Watershed & Game)			
Range Livestock, Mgt. Plans Range 163, 166 .....	..	..	3
Range Forage Plants Range 176 .....	..	5	..
Range Economics Range 181 .....	..	3	..
Soils Agron. 106	4	..	..
Geography of Agriculture..... Agron. 117 .....	..	3	..
Sheep Management An. Hus. 9.....	..	3	..
	16	17	16

HORTICULTURE

FRANCIS M. COE, A. L. WILSON*, Assistant Professors;
EMIL HANSEN, Instructor.

The State of Utah and the Intermountain region offer excellent commercial opportunities to men with fundamental and practical horticultural training. A wide variety of fruit and truck crops for cannery and market are profitably grown in this district, and many of these offer excellent possibilities for the college trained man who plans to farm. Opportunities are also open in high school and college teaching, in experiment station and extension work, and in the government service, for men with thorough training in Horticulture.

This department offers major or minor work in Pomology (fruit culture), Olericulture (vegetable gardening) and Landscape Gardening. Emphasis is placed on the practical art, as well as the fundamental science of Horticulture. Work in laboratories, greenhouses, gardens, and orchards of the College and surrounding country is used to supplement the lecture and recitation work, and field trips are made to commercial fruit and truck farms to study practical problems at first hand.

Students majoring in Horticulture should, in addition to the Junior College courses in this department, secure a thorough grounding in Chemistry (including Organic) Botany and Plant Pathology, Entomology, and Soil Science, in preparation for advanced work in Horticulture. Courses in Agronomy, Animal Husbandry, Dairy and Poultry Husbandry, Agricultural Economics and Marketing, Irrigation and Drainage, and Farm Mechanics are strongly urged to accompany course work in Horticulture. Students are urged to confer with the Professor in charge in arranging their courses of study. Recommended courses of study may be found on pages 41 and 133. Students will avoid conflicts in the schedule by adhering as closely as possible to the published course of study.

For a major in Horticulture the following courses are required 1 (or 100) 4, 5, 101, 102, 110, 112, 151, 152, and Seminar.

1 and 100. General Horticulture—This course is designed to meet the needs of students in Agriculture, Commerce, and Education, and is required as a prerequisite to all courses in Horticulture, except Numbers 3, 4, and 5. Emphasis is placed on fruit growing. Brief elementary work in Vegetable Gardening, Landscape Gardening, Plant Propagation, and Floriculture is included.

Lecture and recitation work on the outlook and opportunities for profitable fruit growing in Utah, propagation of fruit trees and plants, varieties and their selection, soils and sites for fruit growing, layout and planting, pruning, spraying, thinning, harvesting, grading, packing

*Absent on leave.

and marketing. Brief lecture work and laboratory exercise in vegetable culture, propagation and arrangement of shrubs, perennials and annuals. Fall quarter. Five credits.

Lec. Daily except Sat. at 11. Lab. M., 2 to 5. Coe

3. Landscape Gardening and Floriculture—Elementary theory and practice of beautifying home grounds in the city and on the farm. Layout and design of small properties; trees, shrubs, vines, perennial and annual flowers used in ornamental gardening. Garden appreciation. Problems in improvement of home grounds, rural and urban. Home floriculture, including propagation and care of houseplants. Greenhouse management. This course is designed to meet the needs of women as well as men students. Winter quarter. Three credits.

Lec. T. Th. at 9. Lab. F., 2 to 5. Hansen

4. and 104. Vegetable Production—Principles of home and market gardening; varieties, classification, culture and marketing of commercial truck and canning crops. Senior college students will register for course 104. Winter quarter. Three credits.

(Not given 1928-29.)

5. Bush, Cane and Vine Fruits—Commercial and home culture of raspberries, blackberries, currants, gooseberries, strawberries, and grapes. Soils and sites for small fruit plantations; varieties, propagation, planting, training, pruning, culture, harvesting, and marketing. Practical laboratory work in greenhouse, nursery, and field; trips to vineyards and berry farms. Spring quarter. Four credits.

Lec. M. W. F. at 11. Lab. T., 2 to 5. Coe

101. Orchard Management—Fundamental principles and practices in the production of orchard crops. Propagation and fruit tree nursery practices; variety selection; orchard location; sites and soils; planting and planting systems; cultivation, pruning, irrigation, fertilization, cover crops, thinning.

Outlook and culture of apples, cherries, peaches, pears, and plums. The underlying principles of plant science governing management practices are emphasized. Culture of grapes and berries and spraying are briefly discussed. Laboratory and problem work on orchard planning, tree planting, grafting, pruning, spraying, etc. Field trips to study management problems in commercial orchard are required.

Prerequisites, Hort. 1, Botany 22, Chem 26. Should also be preceded by Soils and Entomology. Required in horticulture, recommended in Vocational Agriculture. Orchard Practice, Hort. 112, is recommended to accompany this course for students wishing additional practice work. Spring quarter. Four credits.

Lec. M. W. F. at 8. Lab. M., 2 to 5. Coe

102. Advanced Orchard Management—A continuation of Course 101 in which such production factors as nutrition, fruit setting, winter injury, pollination, frost and orchard heating are studied. Spraying studies, including fungicides, insecticides, spreaders, spray equipment, spraying technique, spray programs, cost of spraying, dusting, rodent control, etc., occupy the latter half of the course. Winter quarter. Five credits.

(Not given in 1928-29.)

105. Horticultural Products—Manufacturing and processing of fruit and vegetables; preparation of cider, vinegar, jams, jellies, preserves, glaces; canning and dehydration, cold packing. Present status and possibilities of these industries. Selection of varieties, grades, standards; economics of canned and dried fruit production. Fall quarter. Four credits.

(Not given in 1928-29.)

110, 111, 112. Advanced Orchard Practice—Field work in seasonal orchard operations. Fall quarter includes picking, grading and packing of fruits, and field trips to orchards in Cache and Box Elder Counties. Pruning, renovation, grafting, and propagation occupy the Winter quarter. Spring operations are planting, spraying, cultivation, irrigation and thinning. Must be preceded or accompanied by Hort. 101, 102, Orchard Management. One credit each quarter.

Fall, Lab. W., 2 to 5.

Winter, Lab. T., 2 to 5.

Spring, Lab. W., 2 to 5.

Coe

113, 114, 115. Greenhouse and Nursery Practice—Practice work in the production of greenhouse and nursery crops, including greenhouse management and outdoor nursery work according to season. Fall, Winter and Spring quarters. One or two credits each quarter.

Hours to be arranged.

Coe and Hansen

151. Systematic Pomology—Varieties of fruits; their classification, identification, and adaptation; critical study of many varieties of fruits; the more important fruit groups and their inter-relationships. Breeding and improvement of fruit plants. Practical work in variety identification, fruit exhibition and judging. Assigned readings on fruit varieties. Staging the Horticulture Show including selection of competitive entries and participation in judging contest required as a part of this course. Prerequisite, Hort. 1. Fall quarter. Four credits.

Lec. M. W. F. at 8. Lab. T., 2 to 5.

Coe

152. Commercial Pomology—Problems dealing with the handling and marketing of fruits, including picking, grading, packing, transportation, storage, distribution and sale; study of buildings and equipment

for packing and storing fruit; roadside and local marketing. Hort. 110, Orchard Practice, Fall quarter, is the laboratory for this course and should precede it. Prerequisite: Hort. 1. Winter quarter. Three credits.

Lec. M. W. F. at 8.

Coe

153, 154. **Seminar**—Discussion of current Horticultural topics, recent research work, reports on subjects not covered by regular courses, presentation of original papers on selected topics. Required of Senior College students in Horticulture and elective to other upper division students. All students are welcome to participate as visitors. Winter and Spring quarters. One credit each quarter.

M. at 1.

Staff

155. **Special Problems**—Studies of advanced problems in Pomology, Landscape Gardening, or Vegetable Gardening for qualified senior or graduate students. Problem or subject selected by student. Assigned readings and research work in library, laboratory, greenhouse or field, presented as thesis. Registration by permission only. Any quarter. Two to five hours credit. Consultation by special arrangement.

Staff

201, 202, 203, 204-a, 204-b. **Research**—Original research on horticultural problems for graduate students qualified to do investigational work in Horticulture, to be presented as graduate thesis for major or minor credit. Graduate thesis work may be used in partial fulfillment of requirements for the Master of Science degree, with major or minor in Horticulture. Re-registration until problem is completed. Registration by permission only. Course 201, Fall quarter; 202, Winter quarter; 203, Spring quarter; 204-a and 204-b, first and second Summer Sessions, respectively. Three to ten credits.

Consultation hours arranged.

Staff

SUGGESTED COURSE FOR STUDENTS MAJORING IN HORTICULTURE

FRESHMAN YEAR

	F.	W.	S.
Botany 21, 22.....Ag'l Botany	5	5	..
Bact. 1, 2.....Gen. Bact. ....	..	..	5
Eng. 10, 11, 12.....Freshman Comp.	3	3	3
A. E. 13.....Farm Motors	3	..	..
Hort. 1, 3.....Gen. Hort., Landscape Gard..	5	3	..
Dairy Husb. 2.....Gen. Farm Dairying.....	..	4	..
An. Hus. 4.....Market Classes and grades....	..	..	3
Poultry 1	Gen. Poultry .....	..	4
	<hr/> 16	<hr/> 15	<hr/> 15

SOPHOMORE YEAR

Chem. 3, 4, 26.....	Inorg. & Org. Chem.....	5	5	5
Zool. 13, 14, 1.....	Entom; Gen. Zool.....	4	4	5
Econ. 50, Ag. Ec. 51.....		3	..	3
Agron. 2, 1.....	Root crops, Cearrel crops.....	4	4	..
Hort. 5	Bush, Cane and Vine Fruits..	4	4	..
A. E. 12.....	Irrigation and Drainage.....	..	..	3
		<hr/>	<hr/>	<hr/>
		16	17	16

JUNIOR YEAR

(Horticulture)

Hort. 151	Systematic Pomology	4	..	..
Hort. 101	Orchard Management .....	..	..	4
Hort. 104	Vegetable Production .....	..	3	..
Hort. 115, 116.....	Greenhouse & Nursery Prac- tice	1	1	1
Agron. 106	Soils	4	..	..
Agron. 3	Forage Crops .....	..	..	3
Agron. 117	Geography of Agri.....	..	3	..
Bot. 130, 131.....	Plant Pathology	4	4	..
English	Elective	1	..	3
An. Hus. 103.....	Feeds and Feeding.....	..	5	..
Electives		4	1	6
		<hr/>	<hr/>	<hr/>
		17	17	17

SENIOR YEAR

(Horticulture)

Hort. 102	Adv. Orchard Management....	..	5	..
Hort. 152	Commercial Pomology .....	..	3	..
Hort. 153, 154.....	Seminar	1	1	..
Hort. 110, 111, 112.....	Orchard Practice	1	1	1
Hort. 155	Special Poblems .....	..	..	5
Zool. 111	Genetics	5	..	..
Ag. Ec. 111.....	Marketing Ag. Prod.....	3	..	..
Poultry 105	Poultry Management .....	..	3	..
Dairy Hus. 110.....		..	..	3
Eng. 125, 126, 127.....	Journalism	2	2	2
Ag. Ec. 102.....	Farm Admin. ....	..	..	3
Electives		5	2	3
		<hr/>	<hr/>	<hr/>
		17	17	17

ARTS AND SCIENCE AND EDUCATION

ART

CALVIN FLETCHER, Professor; H. R. REYNOLDS, Instructor.

1. **Nature Appreciation**—Study of beauty in natural form with a view of its use in design. Fall quarter. Two credits.

Sec. 1, T. Tb. S. at 8.

Fletcher

Sec. 2, M. W. F. at 11.

Reynolds

2. **Design**—General principles of design in pattern and color, color theory, etc. Winter quarter. Two credits.

Sec. 1, T. Tb. S. at 8.

Fletcher

Sec. 2, M. W. F. at 11.

Reynolds

3. **Art Appreciation**—Art principles as applied to costume, interior decoration, painting, sculpture and architecture will be discussed. Spring quarter. Two credits.

Sec. 1, T. Tb. S. at 8.

Fletcher

Sec. 2, M. W. F. at 11.

Reynolds

31. **Art in Commerce**—Design in advertising. Commercial illustration, posters, displays, lettering, etc., will comprise the course. It is recommended to students of commerce, show card and illustration. Fall quarter. Three credits.

M. W. F. at 9.

Reynolds

32. **Color**—The Enjoyment and Use of Color by Sargent will be used as a text. A thorough study of color will be taken up. Recommended for students in Commerce and all students specializing in art or any who desire a good understanding and appreciation of color. Winter quarter. Three credits.

M. W. F. at 9.

Reynolds

33. **History and Appreciation of Art**—Survey of the great achievements of art throughout the ages together with analysis of modern technical processes necessary to the understanding of present day paintings, sculpture, and architecture. Recommended to students of Commerce and all others interested in understanding the work of the great artists of all time. Spring quarter. Three credits.

M. W. F. at 9.

Reynolds

122. Home Planning, Construction, and Design—The principles of home design, garden design, house construction, heating, sanitary equipment, etc., together with painting, color and wood finishing will comprise the course. Fall quarter. Three credits.

T. Tb. S. at 10.

Fletcher

123. Interior Decoration—Decoration and furnishing of interiors including furniture, walls, tableware, pottery, pictures, flowers and the practical assembling of all features which go to make the home beautiful. Winter quarter. Three credits.

T. Tb. S. at 10.

Fletcher

It is recommended that students elect 111 parallel, or following Art 122 and 123, for laboratory work in the field.

124. Perspective Theory—The principles of cylindrical, parallel, and oblique perspective as used in drawing will be covered. Spring quarter. Three credits.

T. Tb. S. at 10.

Fletcher

STUDIO COURSES

Conducted as individual laboratory work. Three hours work each week required for each credit granted. Two, three or more credits may be taken each quarter, but not more than the maximum credit indicated will be granted. Students must file their studio hour schedule with the professor in charge of the course, during the first week of their attendance.

All studio courses are given in the Art Studios on 3rd floor, Main building, and may be taken up in any quarter.

One or more examples of student's work may be retained during the succeeding year for exhibition.

Special instruction in anatomy for art students will be given during the first hour on Thursday throughout the year. A class in pose drawing will meet Wednesday, 2-5, during the Winter quarter.

A sketch class will be organized to work out of doors on Wednesday afternoons during the Fall and Spring quarters. Any medium within the range of the student's ability may be used. Sketching is recommended especially to painting, drawings, and illustration students.

All studio courses may be taken Monday, Tuesday, Wednesday, Thursday, from 2 until 5.

4. **Drawing**—Free hand drawing from still life, cast and nature.

Fletcher

5. **Elementary Painting**—In water color, oil, or pastel.

Fletcher

6. **Elementary Modeling**—From antique and nature.

Fletcher

7. **Illustration**—Elementary illustration and processes for newspapers, books, and magazines.
8. **Embroidery Design**—Design for embroidery, lace weaving, etc.
Reynolds
9. **Historic Ornament**—Egyptian, Assyrian, Greek, French, and Renaissance may be studied.
Reynolds
10. **Elementary Show Card**—Show card and elementary sign writing.
Fletcher
11. **Pottery**—Elementary, including building, turning, glazing, firing, etc., such as may be done with limited equipment.
Reynolds
12. **China Painting**—Elementary painting processes, Prerequisites: Art, 1, 2, 3 or equivalent.
Fletcher
13. **Copper Work**—Simple exercises in sawing, raising, and repousse.
Reynolds
14. **Leather Work**—Elementary etching, dyeing, cutting, and tooling in leather mats, purses, bags, etc.
Reynolds
15. **Basketry**—Weaving processes in reed, raffia, and grass.
Reynolds
16. **Enameling**—Work on glass, wood, ivory, etc.
Reynolds
17. **Fabric Decoration**—Elementary stencilling, tie and dye, block-printing and Batik.
Reynolds
106. **Advanced Drawing**—Life drawing from draped figures, animal drawing, and advanced antique.
Fletcher
108. **Advanced Painting**—Oil, water color, or pastel may be used.
Fletcher
109. **Advanced Modeling**—From animals or living models.
Fletcher

110. **Advanced Illustration**—Newspaper, magazine, costume and decorative illustration, illumination, poster work, or cartooning may be pursued. Students will pursue one line at a time.

Fletcher

111. **Professional Design**—Design for textiles, wall paper, interior decoration, furniture, etc. One line to be taken at a time.

Fletcher

112. **Advanced Costume Design**—Prerequisites, Textiles, 105, 111.

113. **Advanced Show Card and Technical Sign Work**—

Fletcher

114. **Fancy Lettering and Illumination**—Pen lettering and decoration for memorials, documents, Christmas greetings, place cards, etc.

Reynolds

115. **Advanced China Decoration**—Incrusted work, enameling, lustre, and past to be taken up.

Fletcher

116. **Advanced Art Metalry**—

Reynolds

117. **Jewelry**—Sawing, wire work, filigree, stone setting, enameling, soldering, will be taken up with brooches, rings, lavalliers, pins, chains, etc.

Reynolds

118. **Advanced Leather Work**—Tooling, carving, mounting and finishing.

Reynolds

119. **Advanced Wood Ornamentation**—Carving, inlay, scraffito jesso, etc.

Reynolds

120. **Advanced Fabric Decoration**—Advanced work in Batik, dyeing, stencilling, and block-printing.

Reynolds

206. **Advanced Drawing**—From animals, life, and close anatomical analysis.

Fletcher

208. **Advanced Painting**—Landscape or portrait may be pursued.

Fletcher

209. **Advanced Modeling**—Original projects in sculpture to be carried out.

M. T. W. F., 2 to 5.

Fletcher

211. **Professional Design**—Interior decoration, or commercial design may be taken up.

M. T. W. F., 2 to 5.

Fletcher

CHEMISTRY

R. L. HILL, Professor; C. T. HIRST, SHERWIN MAESER, Associate Professors.

Students desiring to major in chemistry should consult with the head of the department as soon as possible, since departmental approval is necessary for graduation. Courses 102, 103, 104, 105, 106, 160, and five additional hours of senior college work are required for a major.

1. **General Chemistry**—An informational course in beginning college chemistry, designed especially for students who desire a brief applied survey of the field of inorganic chemistry. Credit in this course can not be used as a prerequisite for any course in chemistry except chemistry 26. Students majoring in chemistry or desiring premedical credit should register for chemistry 3, 4, and 5. This course should be preceded if possible by physics 1.

Four lectures, one quiz, and one demonstration period per week. Five credits.

*Sec. 1, Fall, Lec. M. T. W. Th., quiz and demonstration
F. or S. at 8.* *Hill*

*Sec. 2, Fall, Lec. M. T. W. Th., quiz and demonstration
F. or S. at 11.* *Maeser*

*Sec. 3, Winter, Lec. M. T. W. Th., quiz and demonstration
F. or S. at 9.* *Maeser*

*Sec. 4, Winter, Lec. M. T. W. Th., quiz and demonstration
F. or S. at 11.* *Hirst*

*Sec. 5, Winter, Lec. M. T. W. Th., quiz and demonstration
F. or S. at 8.* *Hill*

*Sec. 6, Spring, Lec. M. T. W. Th., quiz and demonstration
F. or S. at 8.* *Maeser*

3, 4, 5. **Inorganic Chemistry**—A more complete course in inorganic chemistry, included a beginning in qualitative analysis. Prerequisites: High School Chemistry or Physics or Chemistry 1 or Physics 1 and 2. The course is so arranged that students who do not have time for a full year course in chemistry may get a general knowledge of the more fundamental principles in the first two terms (3, 4). Those majoring in chemistry or in other natural sciences, or doing premedical work should register also for the third term (5).

Lec. M. W. F. at 10. Quiz and Lab. M. W., 2 to 5, or T. Th., 2 to 5. Maeser

15, 16. **Qualitative Analysis**—A course in the theory and practice of inorganic qualitative analysis. Prerequisite: Chem. 4. Winter and Spring quarters. Three credits each quarter.

Lec. T. at 2; Lab. 3 to 5. Th., 2 to 5.

21, 22. **Organic Chemistry**—Fundamental Principles of Organic Chemistry. The aliphatic and aromatic hydrocarbons, and their derivatives. Prerequisite: Chemistry 5, or Chemistry 15. Fall and Winter quarters. Five credits each quarter.

Lec. T. Th. S. at 10. Lab. M. W., 2 to 5.

Hill

26. **Organic Chemistry**—An informational course in organic chemistry arranged for students who desire a brief applied course. Students majoring in chemistry or desiring premedical credit should register for Chemistry 21 and 22. Prerequisite: Chemistry 1, or 4. Fall and Spring quarters. Five credits.

Lec. M. T. W. Th., demonstration or quiz F. or S. at 9. Lab. Th., 2 to 5. Hill

126. **Applied Organic Chemistry**—The application of organic chemistry to plant and animal life. This course is a brief course for students who have taken only Chemistry 1 and 26. Students with credit in Chemistry 5, and 22, should register for Bact. 111, or Chem. 113. Credit in this course is not allowed on a major in Chemistry. Prerequisite, Chem. 26. Winter quarter. Three credits.

Lec. T. Th. S. at 9.

Hill

102-103. **Quantitative Analysis**—A course in the application of theory and the fundamental principles of gravimetric and volumetric analysis to inorganic, agricultural, and food analysis. Prerequisite: Chem. 5, or 15. Winter and Spring quarters. Three credits each quarter.

Lec. Th. at 2. Lab. T., 2 to 5; Th., 3 to 5; F., 2 to 5.

Hirst

104, 105, 106. **Physical Chemistry**—See Physics 104, 105, 106.

107, 108. **Dairy chemistry**—The chemistry of milk and milk products, including tests for adulterants, preservatives, and the routine quantitative methods of the analysis of dairy products. Prerequisite: Chem. 22. Fall and Winter quarters.

(Not given 1928-29.)

113. **Advanced Organic Chemistry**—The more important theories and reactions employed in organic chemistry. Prerequisite: Chemistry 22. Winter quarter. Five credits.

Hours to be arranged.

Maeser

114. **The Nitrogen Compounds**—A course devoted primarily to the proteins, alkaloids, and purine derivatives. Prerequisite: Chemistry 22. Five credits.

(Not given 1928-29.)

115. **Organic Preparations**—An advanced laboratory course in practical laboratory methods of synthetic organic chemistry. Prerequisites: Chemistry 22, and 103. Any quarter.

Credit and hours to be arranged.

Maeser

116. **Inorganic Preparations**—An advanced laboratory course in practical laboratory methods of synthetic Inorganic Chemistry. Prerequisites: Chemistry 5, or 15, and 103. Any quarter.

Credit and hours to be arranged.

Maeser

120. **Special courses in Quantitative Analysis**—Prerequisite; Chemistry 103. Winter or Spring quarter.

Time and credit to be arranged.

120-A. **Water Analysis**—

120-B. **Food Analysis**—

120-C. **Soil Analysis**—

120-D. **Urine Analysis**—

120-E. **Gas Analysis**—

Hirst

160. **Chemistry Seminar**—Required of all seniors majoring in Chemistry. Fall, Winter, and Spring quarters. One credit each quarter

Tu. at 12.

Maeser

180 or 280. **Research**—Senior or Graduate students majoring in Chemistry may elect research in any branch of the subject.

Time and credit to be arranged.

Staff

EDUCATION

HENRY OBERHANSLEY, Associate Professor; A. H. SAXER, CALVIN FLETCHER, ALICE KEWLEY, Professors; L. R. HUM-PHERYS, Associate Professor; C. E. McCLELLAN, Assistant Professor; H. R. REYNOLDS, FRANCES BARBER, Instructors.

4. **Principles of Education**—A study of (a) the meaning and purpose of education, formal and informal; (b) the nature of the human mind and the learning process; (c) the objectives of education as determined by the individual's needs and by the demands of the social group; (d) the nature and function of the school as an educative agency. Fall, Winter or Spring. Three credits.

*Sec. 1, Fall, M. W. F. at 10. Sec. 2, Winter, M. W. F. at 11.
Sec. 3, Spring, M. W. F. at 9. McClellan*

5. **Elementary School Curriculum**—This course is designed to familiarize prospective elementary teachers with the content of the elementary curriculum, and the objectives and standards to be realized in the grades. Fall, Winter, or Spring quarter. Three credits.

*Sec. 1, Fall, T. Th. S. at 8. Sec. 2, Winter, T. Th. S. at 8.
Sec. 3, Spring, T. Th. S. at 8. Barber*

6. **Educational Organization and Administration**—A brief survey of the evaluation of American public schools. A comparative study of the organization and function of the different units of educational control (national, state, and local); methods of raising and apportioning school funds. Special attention will be given to the Utah School law and its administration. Fall, Winter or Spring quarters. Three credits.

*Sec. 1, Fall, M. W. F. at 11. Sec. 2, Winter, M. W. F. at 8.
Sec. 3, Spring, M. W. F. at 11. McClellan*

*12 and 112. **Rural Education**—A survey and study of proposed objectives for rural schools; tendencies in curriculum revision and the organization of rural schools; the preparation of rural teachers; and the functions of the schools as agents in the solution of rural life problems. Senior College students will register for 112, and be assigned extra readings and reports. Winter quarter. Three credits.

T. Th. S. at 8. Oberhansley

*May be used to meet the State requirement for Applied Ethics and Sociology.

21. Scoutmastership—A course in the organization, management, and leadership of the Boy Scout Troop. First aid, signalling, handicraft, camping athletics and games, stories, trees, birds, rocks, stars, etc. The problems and the aims of the Boy Scout movement. One lecture and one laboratory period. Hikes will be arranged. Winter quarter, Two credits.

Lec. T. S. at 1. Committee in charge: Professors Bailey, Fletcher, Henry Peterson, William Peterson, Jensen, Oberhansley.

22. Elementary Statistical Methods—An introduction to the mathematical theory of statistics, together with applications in the fields of Education and Business. Prerequisites: Math. 21, or 30, or other equivalent. Spring quarter. Three credits.

M. W. F. at 11.

Saxer

24. Apprentice Teaching in Scoutmastership—For prospective scoutmasters and other social leaders. One lecture each week, and active participation as assistant scoutmasters in registered troops. Prerequisite: Education 21. Spring quarter. Two credits.

T. at 10. Oberhansley and Scout Commission of the Logan Council of Boy Scouts.

41. Methods of Teaching Elementary Subjects—The spontaneous, purposeful activity of the child as the basic principle determining methods. Subject matter reviewed in the light of the foregoing thesis. Significance to teachers of the fact of individual differences. Consideration of school room equipment, organization, and play activity. To be taken at same time as training. Fall, Winter or Spring. Three credits.

Sec. 1, Fall, M. W. F. at 8. Sec. 2, Winter, M. W. F. at 8. Sec. 3, Spring, M. W. F. at 8.

Barber

42. Practice Teaching—This course is for sophomores who have had Educational Psychology, Principles of Education, and Methods. The apprentice plan is followed which requires an initial period of observation with minor responsibility, with gradual increase of work and responsibility as trainee's ability is demonstrated. The quarter during which the student is to do practice teaching must be arranged for at the time of registration in the Fall quarter. Fall, Winter, or Spring quarters. Ten credits.

All Trainees meet on Monday at 4. McClellan and Barber

51. Drawing for Public Schools—Methods and technic of drawing as taught in the graded schools, also blackboard drawing. Fall quarter. Three credits.

T. Th. S. at 11.

Reynolds

52. Normal Design and Color as Used in Graded Schools—Methods of doing and teaching design and color to children. Picture study will also comprise a part of the course. Winter quarter. Three credits.

T. Th. S. at 11.

Reynolds

53. Handiwork for Graded Schools—Stock printing stencilling, weaving, basketry, enameling, jesso, pottery and other crafts suited to graded schools will be taken up. Spring quarter. Three credits.

T. Th. S. at 11.

Reynolds

61. Use of Books—The resources of the library and how to find them. Classification, care, and use of books; arrangement; the card catalogue and reference books. Spring quarter. One credit.

T. at 1.

Smith and Sorensen

110. History of Education—A brief review of the historical development of educational theories and practices from the Greeks to the present. Special emphasis will be placed upon the relation of education to the social, religious, political and industrial conditions of the period. Important educational reforms and reformers will be studied for the lessons they may teach to modern education. Fall quarter. Three credits.

T. Th. S. at 8.

McClellan

111. Science of Education—A study of the scientific data of education as related to the processes and methods used in high school teaching. Consideration will be given to educational values and objectives, and to tests and measurements by which standards are determined. Prerequisites: Psychology 102 or 103. Fall, Winter, or Spring quarter. Three credits.

*Sec. 1, Fall, T. Th. S. at 9. Sec. 2, Winter, T. Th. S. at 11.
Sec. 3, Spring, T. Th. S. at 10.*

Oberhansley

113. Methods of Extension Work—Intensive study of the problems and functions of county agricultural agents, county home demonstration agents, agricultural specialists, home economics specialists, club agents, and state extension work; present organization and status of extension work. Field trips will be made into those parts of the state where the most successful extension work is being done. Spring quarter. Three credits.

T. Th. S. at 1.

Oberhansley and Ext. Staff

115. Practice Teaching in High Schools—For those preparing for Junior High School or Senior High School certification by the State. The apprenticeship plan is followed which requires a period of observa-

tion and the performance of minor duties at first with gradual increase as the trainee proves himself equal to the work. Prerequisites: Psychology 102 or 103, and Education 111. Arrangements must be made at the time of registration in the Fall if training is desired at any time during the year. Fall, Winter or Spring quarters. Four to eight credits.

*Sec. 1, Fall, M. W. F. at 4. Sec. 2, Winter, M. W. F. at 8.
Sec. 3, Spring, M. W. F. at 8. Oberhansley*

119. **Methods of Teaching Home Economics**—A course designed for teachers. The function of home economics in the elementary and high school. Selection of subject matter. General discussion of methods in teaching home economics. Planned to serve as an introduction to Education 120. Spring quarter. Three credits.

M. W. F. at 8. Kewley

120. **Problems in Teaching Home Economics**—Teaching methods analyzed in their application to different phases of home economics. Study of textbooks, illustrative material and equipment. Testing results of instruction. Prerequisite: Education 119. Students without Education 119 admitted to this course only by special permission of instructor. Fall quarter. Three credits.

M. W. F. at 8. Kewley

121. **The Organization and Administration of Secondary Education**—(a) The State Laws and the regulations of the State Board of Education pertaining to public high schools; (b) high school courses of study, including the Utah State course; (c) organization, duties and activities of the teaching staff and the student body; (d) special study of the objectives of social education, including character education as applied to secondary schools and the methods of realizing these objectives. Fall, Winter or Spring quarter. Three credits.

*Sec. 1, Fall, T. Th. S. at 11. Sec. 2, Winter, T. Th. S. at 10.
Sec. 3, Spring, T. Th. S. at 9. Oberhansley*

122. **Practice Teaching in Home Economics**—Supervised observation of all phases of home economics teaching in various schools of the State. Each apprentice teacher is required to teach a minimum of 30 successful lessons. Round table discussions and individual weekly conferences to parallel practice in teaching. Prerequisites: Education 120. Fall, Winter, or Spring quarters. Five to eight credits.

Time to be arranged. Kewley

124. Special Methods of Teaching Shop Work—The analysis and classification of trade knowledge. Establishing an effective instructional order. Methods of instruction. Lesson planning. A consideration of the various teaching devices and the Utah course of study. Problems in instructional management. Winter quarter. Five credits.

Daily at 9.

Humpherys

125. Practice Teaching in Shop Work—Supervised observation and practice teaching in various shop units in selected schools near the College. Individual conferences and round table discussion. Prerequisite: Education 124. Winter or Spring quarter. Five to eight credits.

Time to be arranged.

Humpherys

126. Methods of Teaching Agriculture—For prospective Smith-Hughes and agricultural teachers. The home project and agricultural job analysis will be the basis of the course. Special topics considered are: The Smith-Hughes law and how it operates in Utah; selection and arrangement of subject matter; lesson planning; management of students in class room, laboratory and field; visual and extension methods of teaching. Prerequisites: Education 111 or its equivalent. Fall quarter. Six credits.

Daily at 8.

Oberhansley

127. Practice Teaching in Agriculture—Opportunity will be provided for a limited number of men to do some personally directed in Smith-Hughes work in the Logan High School, North Cache High School, and the South Cache High School. Prerequisite: First three years of Smith-Hughes course. Fall, Winter, and Spring quarters. Eight credits.

Time to be arranged.

Oberhansley

131. Educational Tests and Measurements—An introductory course dealing with the history, principles and practices of the testing movement. Analysis of types of tests, their construction and use, with some practice in giving, scoring, and interpreting. Spring quarter. Three credits.

M. W. F. at 10.

McClellan

151. Educational Art for High Schools—For those who want to teach art under the Smith-Hughes plan, or in High School. The teaching of drawing, the crafts, costume design, interior decoration, commercial design, etc. Prerequisites: a knowledge of drawing and design. Winter quarter. Three credits.

M. W. F. at 11.

Fletcher

229. Educational Administration—A study of state, city, and rural school systems, with the principles underlying their organization and administration; an examination of the powers, duties, and responsibilities belonging to state and local boards of education, and upon superintendents, principals, and other school officials. A review of the literature of the field. Prerequisites: Psychology and History of Education. Winter quarter. Three credits.

T. Tb. S. at 10.

McClellan

230. Educational Supervision—A study of the objectives, ideals, and present practices of the school; an examination of courses of study as a means of reaching desired objectives; a study of psychological principles as applied to present practices in teaching; a consideration of the technique necessary for the supervisor in determining success or failure on the part of the teacher. Specially arranged visits to teachers at work will constitute a part of the work of the course. Spring quarter. Three credits.

T. Tb. S. at 8.

McClellan

261, 262, 263. Seminar in Education—A study of important educational problems by the group. In addition each individual will choose, or be assigned, a special problems to be worked out by him, under direction, during the quarter. A term paper will embody the results of his work. The nature of the course is intended to make it an introduction to research methods and to thesis writing. Open to seniors and graduates who have the necessary foundation in psychology and education. Fall, Winter and Spring quarters. Two credits each quarter.

Sec. 1, Fall, W. at 4. Sec. 2, Winter, W. at 4. Sec. 3, Spring, W. at 4.

McClellan

271, 272, 273. Research in Education—This course gives opportunity to seniors and graduate students who are in a position to carry on some worthwhile piece of research in education in which they are specially interested. No regular class is held but students receive the necessary instruction and guidance for their work through special conferences with the instructor in charge.

Time and credit to be arranged.

McClellan

ENGLISH AND SPEECH

N. ALVIN PEDERSEN, FRANK R. ARNOLD, Professors; WALLACE J. VICKERS, ALMA N. SORESENSEN, Associate Professors; CHARLOTTE KYLE, Assistant Professor; CHESTER J. MYERS, FRED HAMMERLY, Instructors.

9. Scientific Vocabulary—Intensive study of English word formation, derivation, synonyms, and figurative language in order to ac-

quire a large English vocabulary, and to be able to understand scientific terms. Spring quarter. Three credits.

M. W. F. at 9. *Arnold*

10. **Freshman Composition**—A thorough grammatical review. Fall quarter. Three credits.

Sec. 1, M. W. F. at 8. *Kyle*

Sec. 2, M. W. F. at 9. *Vickers*

Sec. 3, M. W. F. at 9. *Sorensen*

Sec. 4, T. Th. S. at 10. *Hammerly*

Sec. 5, T. Th. S. at 11. *Sorensen*

Sec. 6, T. Th. S. at 8. *Vickers*

Sec. 7, T. Th. S. at 9. *Kyle*

Sec. 8, M. W. F. at 9. *Mr.*

Sec. 9, M. W. F. at 10. *Mr.*

Sec. 10, Winter quarter, T. Th. S. at 9. *Vickers*

11. **Freshman Composition**—Expository and Argumentative writing. English 10 prerequisite for 11 and 12. Winter quarter. Three credits.

Sections, days, hours and teachers same as listed under 10.

12. **Freshman Composition**—Descriptive and Narrative writing. Spring quarter. Three credits.

Time and teachers same as listed under 10.

13. **Children's Literature**—Introduction to the prose and poetry of childhood and adolescence. The course should be helpful to teachers. Spring quarter. Three credits.

M. S. F. at 11. *Pedersen*

15. **Miscellaneous Literature**—Prose fiction and poetry from different ages and countries. Spring quarter. Three credits.

T. Th. S. at 8. *Pedersen*

50, 51, 52. **The History of English Literature**—The literature of Great Britain from the Anglo-Saxon period to the present time, with emphasis upon the literature since the time of Shakespeare. To register for Winter or Spring quarter, exclusive of Fall quarter, consult instructor. Fall, Winter, and Spring quarters. Three credits each quarter.

Sec. 1, M. W. F. at 8. *Pedersen*

Sec. 2, T. Th. S. at 9. *Sorensen*

53, 54, 55. **Nineteenth Century Novel**—Class discussion and re-
s. French, Russian, Italian, German, English, and American
ls. Fall, Winter, and Spring quarters. Three credits each quarter.
(Not given 1928-29) *Kyle*

60, 61, 62. **Essay Reading**—The study of selected essays of con-
ary writers. Current magazines will furnish much of the ma-
The object of the course is to aid the student in cultivating a
or well-written prose, and in gaining information on current
Fall, Winter, and Spring quarters. Three credits each quarter.
W. F. at 10. *Kyle*

81, 82. **American Literature**—From Colonial times to the
To register for Winter or Spring quarter, exclusive of Fall
er, consult instructor. Fall, Winter, and Spring quarters. Three
each quarter.
Th. S. at 10. *Kyle*

Emerson—Representative essays, speeches, poems, and the
"Spring quarter. Three credits.
W. F. at 8. *Sorensen*

Carlyle—Reading and discussion of selected masterpieces.
arter. Three credits.
Th. S. at 10. *Sorensen*

Browning—Principally a study of Browning's monologues.
arter. Two credits.
Th. at 10. *Sorensen*

English 11, 12 are prerequisites for all courses in English that
English 11, 12 are prerequisites for all courses in English that
106. **College Grammar**—Fall quarter. Three credits. Repeats
ing quarter.
Th. S. at 9. *Vickers*

109. **Advanced Writing**—Review of rhetorical details. Prac-
various forms of discourse. Considerable freedom of choice as
of writing. To register for Winter quarter, exclusive of Fall
er, consult instructor. Fall and Winter quarters. Three credits
arter.
Th. S. at 10. *Pedersen*

112. **The Eighteenth Century Novel**—
(Not given 1928-29) *Sorensen*

120, 121. **Debating**—Required of all candidates for college team. Fall and Winter quarters. Two credits each quarter. One additional credit is given to those who make the college debating team.

T. Th. at 10.

125, 126, 127. **Journalism**—News collecting, study of country and city newspapers, preparation of agricultural feature stories, magazines and newspapers. Students of ability may sell much of their class work to the College Department of Information-Service, thus getting much training in publicity work and in Agricultural editing. Fall, Winter, and Spring quarters. Two credits each quarter.

Tu. Th. at 1.

130. **The Bible as English Literature**—The literature of the Bible studied in its relation to the historical, social, and religious background of the Hebrews. Winter quarter. Three credits.

M. W. F. at 10

136. **The Teaching of English in Secondary Schools**—Spring quarter. Two credits.

T. Th. at 10.

140, 141, 142. **Shakespeare**—Detailed study in class of six plays: Macbeth, Henry the Fourth, King Lear, Hamlet, Othello, Twelfth Night. Collateral readings: various other Shakespeare plays as well as a biography. Fall, Winter, and Spring quarters. Three credits each quarter. To register for Winter or Spring quarters, exclusive of the first quarter, consult instructor.

M. W. F. at 9.

143. **Milton**—Selected prose and poetry, with the emphasis on *Paradise Lost*. Spring quarter. Three credits.

M. W. F. at 10.

153, 154. **Chaucer**—Extensive reading course. Attention is given to pronunciation. To register for Winter quarter, not having taken Fall quarter, consult instructor. Fall and winter quarters. Two credits each quarter.

M. W. F. at 11.

155, 156, 157. **The recent Novel**—A study of such writers as Bennett, Galsworthy, Wells, Anderson, Cather, Cabell. Fall and Winter quarters. Two credits each quarter. No student should register without first consulting the instructor.

T. S. at 9.

163, 164, 165. **Modern Drama.**
(Not given in 1928-29)

166, 167, 168. **Types of Fiction**—Period restricted to the eighteenth and nineteenth centuries. The appearance and development of important types in English and America, together with a comparative study of selected European fiction in translation. To register for Winter or Spring quarter, exclusive of Fall quarter, consult instructor. Fall, Winter, and Spring quarters. Three credits each quarter.

M. W. F. at 10.

Sorensen

170, 171, 172. **The Short Story**—A study of the structure of the short story from Poe to the present time. Practice in writing will be a strong feature of the course. Fall, Winter, and Spring quarters. Three credits each quarter.

M. W. F. at 11.

Kyle

184. **Epic Poetry**—The Iliad, Odyssey, Aeneid, and parts of Dante's Divine Comedy in translation. Fall quarter. Three credits.

Courses 184, 130, and 143 form a sequence that runs through the year.

M. W. F. at 10.

Vickers

SPEECH

1. **Extemporaneous Speaking. (Emphasis on Delivery)**—Practice in extemporaneous speaking with a definite study of those principles which make speech effective. Class limited to twenty-five. Fall quarter. Five credits.

Daily, except Saturday, at 11.

Myers

2. **Vocal Interpretation**—The vocal interpretation of the printed page. The aim of the course is to develop the ability to appreciate intellectually and emotionally any good literature, and to interpret it so that others will appreciate it. Class limited to twenty-five. Fall quarter. Five credits.

Daily, except Saturday, at 10.

Myers

3. **Extemporaneous Speaking**—Continuation of speech one. Emphasis on speech outlines and composition. Prerequisite: Speech 1. Class limited to twenty-five. Winter quarter.

Daily, except Saturday, at 11.

Myers

4. **Principles of Reading**—An analysis and study of the printed page. Beneficial to those who wish to read effectively either orally or silently. Of value to teachers of reading. Class limited to twenty-five. Winter quarter. Five credits.

Daily, except Saturday, at 10.

Myers

5. **Speech Technique**—Special attention is to be given to voice science, gesture, breathing, posture, and phonetics. A course which aims at ease in cultural speech; for those who are interested in coming before the public in any form of speech work. Required of all those who take any senior college speech work. Class is not limited. Spring quarter. Three credits.

M. W. F. at 11.

Myers

6. **Dialect**—A study of the dialect forms of such writers as Burns, Kipling, Drummond, Riley, Daly, Dunbar, Harris, and Kirk. A course for those who desire a knowledge of the monologue and the use of various dialectic forms. Spring quarter. Five credits.

Daily, except Saturday, at 10.

Myers

101. **Advanced Public Speaking**—Practice in the making and delivery of speeches adapted to various audiences and occasions. The psychological aspects of speech making are also studied. Prerequisites: Speech 1, 3, 5. Winter quarter. Five credits.

Daily, except Saturday, at 8.

Myers

102. **Play Production**—Study and production of plays. Attention is given to work in the art of stage make-up, stage technique, technique of acting, prompt books, miniature stages, costumes, and lights. Knowledge applied to campus productions. Prerequisites: Speech 2, 4, 5. Fall quarter. Five credits.

Daily, except Saturday, at 8.

Myers

104. **Platform Reading**—An analytical study of oral literary forms, emphasizing the differentiation of such forms. The course deals with both dramatic and non-dramatic material. Prerequisites: 2, 4, 5. Spring quarter. Five credits.

Daily, except Saturday, at 8.

Myers

105. **Pedagogy of Speech**—Lecture course with reference reading in the library. Consideration is given to the various problems confronting the teacher of speech. The matter of contests in speech, reading, and debate will also receive attention. Class programs and lesson plans in written form are expected of each student. Spring quarter. Two credits. Consult the instructor before registering for this course.

T. Tb. at 11.

Myers

GEOLOGY

WILLIAM PETERSON, Professor; REED W. BAILEY, Assistant Professor.

1. Geology and Geography of Utah—This course is planned especially to give the student a knowledge of the state, its mountains and valleys, rivers and lakes, and how they came to be. The geological processes such as running water, wind, and moving ice, that have operated in this intermountain region, and modified the land forms, will be studied. There will be a brief study made of the geological history of the state, of the sequence of events that have led up to its present form, and the ancient life that lived here. This work will also include a study of the National parks and monuments in the state. Special reports and field trips will be required. Fall quarter. Three credits.

M. W. F. at 8.

Peterson and Bailey

10. Engineering Geology—General principles of geology and their application to engineering problems. A study will be made of the materials of the earth, such as rock, gravel, sand, and clay; of structural features of the earth's crust; of maps representing these materials and structures, with their application to the construction of roads, dams, and canals, and the development of water supply, drainage, etc. The course will consist of three lectures and two laboratory periods. Winter quarter. Five credits.

Lectures M. W. F. at 8. Lab. T. Th.

Bailey

102, 103, 104. General Geology—Physical and Historical Geology. A study of the materials making up the earth's crust, their arrangement and origin. Also, a study of the dynamic agents, such as wind, running water, moving ice, volcanic activities, etc., which operate upon the earth and modify its outer portion. A study of the sequence of events which have happened to the earth in the past as revealed by the rocks and fossils. A review of the building of the continent with its mountain ranges, and the succession of life which has inhabited the earth. Field trips will be required. Prerequisites: College Chemistry, and Zoology. Fall, Winter, and Spring quarters. Three credits each quarter.

M. W. F. at 9.

Peterson and Bailey

105, 106. General Geology—Physical and Historical Geology. For description of course see 102, 103, and 104. Prerequisites: College Chemistry, and Zoology. Winter and Spring quarters. Five credits each quarter.

Daily, except Saturday, at 10.

Bailey

108. **Economic Geology**—The first part of the course will deal with the non-metals, with special emphasis on mineral fertilizers and coal; the second part, with metals, such as iron, lead, zinc, copper, gold, and silver, and their economic use. Prerequisite: General Geology. Winter quarter. Five credits.

Daily at 11.

Bailey

110. **Common Minerals and Rocks**—The origin and formation of the different kinds of rocks, both sedimentary and igneous, and of about seventy-five minerals with methods for their determination. Prerequisites: General Geology. Fall quarter. Five credits.

Lectures T. Th. S. at 8. Lab. W. F.

Bailey

111. **Geology of Ground Water**—A study of structure to determine the cause of springs, artesian wells, etc. Structural characteristics that will yield water, either through tunneling or boring. Prerequisites: Geology 102, 103 104 or 105, 106 and Physics 1, 2, 3, Spring quarter. Five credits.

Daily, except Saturday, at 11.

Peterson

112. **Advanced Physiography**—Prerequisites: Geology 102, 103, 104, or 105, 106. Fall quarter. Three credits.

(Not given in 1928-29)

113. **Paleontology**—Life succession as found in fossil record. Special emphasis will be placed on the origin and the development of the mammals of today. Spring quarter. Five credits.

Daily, except Saturday at 12.

Bailey

114. **Field Methods**—Necessary in mapping the detailed geology of an assigned area.

Time and credit to be arranged.

Peterson and Bailey

116. **Relief Modeling**—Methods by which any topographic map may be converted into a true relief model including either the geology or detailed geography as the student may select.

Time to be arranged.

Peterson

117. **Agricultural Geology**—Local geology in the valleys of Utah. A detailed study will be made of the rock formations surrounding each valley and the character of soils from the disintegration of these rocks. This course will be prefaced by a study of structural and relief features of Utah as well as a general survey of the drainage systems as they have influenced the disposition of disintegrated rock in the forming of soil.

(Not given 1928-29.)

120. Structural and Metamorphic Geology—A description and interpretation of structural features found in the earth's crust. Structures related to Ground Water, and Mining and Oil development will be emphasised. Regional structures such as mountain ranges will be studied. Metamorphic rocks and their origin will be a part of the course. Prerequisite: General Geology. Five credits.

Time to be arranged.

Peterson and Bailey

HISTORY

*JOEL E. RICKS, Professor; FRANKLIN D. DAINES, Professor; MILTON MERRILL, Instructor.

1, 2, 3. European History—Survey of European History from the fall of Rome to the present. Fall, Winter, and Spring quarters. Three credits each quarter.

Section 1, T. Th. S. at 10.

Merrill

Section 2, M. W. F. at 11.

Merrill

13, 14, 15. United States History—Survey of United States History from the earliest times to the present. Fall, Winter and Spring quarters. Three credits each quarter.

Section 1, M. W. F. at 8.

Merrill

Section 2, M. W. F. at 9.

Merrill

185. United States History. Constitutional History. A study of the basis of the Constitution of the United States as worked out in the British Empire and the United States. Emphasis placed upon the period in which the Constitution was made, the Constitutional Convention, and the period in which the Constitution was put into operation. Fall quarter. Three credits.

T. Th. S. at 9.

Merrill

186, 187. United States History. Constitutional History. The development of the principles and practices of the Constitution since the inauguration of the government through interpretation and custom. Winter and Spring quarters. Three credits each quarter.

T. Th. S. at 9.

Daines

120. European History. The Renaissance and Reformation. [A study of the Renaissance in all of the Western European countries. Following a brief review of the history of the Church the Reformation movement will be followed in Germany, France, Switzerland, Scotland, and the Scandinavian countries especially. The Counter Reformation movement will also receive attention. Fall quarter. Three credits.

M. W. F. at 10.

Merrill

124. **European History**—The French Revolution and Napoleon. Considerable emphasis will be placed upon the French Revolution as it affected the political and social institutions of France and the other European countries. The Napoleonic period will close with a study of the reaction under the direction of Metternich. Winter quarter. Three credits.

M. W. F. at 10.

Merrill

128. **European History**—Recent World History. A study of the main currents of events of significance in the development of international diplomatic practices and world politics. Spring quarter. Three credits.

M. W. F. at 10.

Daines

127. **European History 1870-1914**—A study of the forces—social, economic, political and diplomatic—through the period will be made with special consideration of the causes of the war of 1914. Fall quarter. Three credits.

(Not given 1928-29.)

121, 122. **European History**—The expansion of Europe. A study of the causes of expansion of Spain, Portugal, Holland, France, England, Germany and Russia will be made with special emphasis upon expansion in the nineteenth and twentieth centuries. Winter and Spring quarters. Three credits each quarter.

(Not given 1928-29.)

141, 142, 143. **United States History**—From 1830 to the present. The conflict of sections prior to the Civil War, the political struggle and the significance of industry after the Civil War will be emphasized. Fall, Winter and Spring quarters. Three credits each quarter.

(Not given 1928-29.)

197, 198, 199. **Seminar in United States History**—Sources, historians, and methods of writing American History will be studied. Research problems, especially in western history, will be assigned to members of the class. Fall, Winter and Spring quarters. Three credits each quarter. Students must register for all three quarters in this course.

(Not given 1928-29.)

MATHEMATICS

A. H. SAXER, Professor; EDMUND FELDMAN, Associate Professor; LEGRANDE HUMPHREYS, ROY EGBERT, Assistant Professors; V. H. TINGEY, Instructor.

20, 21. **Elementary Analysis**—A course arranged for students who can take but one year of mathematics, and who have presented

but one unit of algebra for entrance. Graphical methods for presenting facts. Relation of the graph to algebra, arithmetic and geometry. Detailed analytical discussions of the linear equation. Graphical and algebraical solution of triangles. Trigonometry and use of trigonometric tables. Use of logarithms, slide rule, etc. Prerequisite: one year of high school algebra. Fall and Winter quarters. Three credits each quarter.

Section 1, M. W. F. at 11. Egbert

Section 2, T. Th. S. at 11. Egbert

22. Elementary Statistical Methods—An introduction to the mathematical theory of statistics together with applications in the fields of Education and Business. Prerequisites: Math. 21, or 30, or their equivalent. Spring quarter. Three credits.

M. W. F. at 11. Saxer

30. Algebra—This course is designed to meet the needs of students in engineering who present but one unit of algebra and one unit of geometry for entrance. This course prepares for Mathematics 31 and 45 which follow, and should not be taken by those who present $1\frac{1}{2}$ units of algebra. Fall quarter. Five credits.

Section 1, Daily except Saturday at 10. Tingey

Section 2, Daily except Saturday at 8. Tingey

Section 3, Winter, Daily except Saturday at 11. Humpherys

Section 4, Spring, Daily except Saturday at 11. Egbert

31, 32. Algebra, Trigonometry, and Calculus—A unified course arranged for students in Engineering, but may be taken by any student desiring a standard collegiate course in Algebra and Trigonometry, including an introduction to both the differential and the Integral Calculus. Prerequisite: Math. 21, 30, or $1\frac{1}{2}$ units of High School algebra. Winter and Spring quarters. Five credits each quarter.

(Not given 1928-29. See Math. 45 and 46)

40. Solid Geometry—Prerequisites: $1\frac{1}{2}$ units of High School algebra and plane geometry. Fall, Winter and Spring quarters. Two credits each quarter.

Time to be arranged. Feldman

45. College Algebra—Prerequisite: $1\frac{1}{2}$ units of High School algebra, or Mathematics 30. Winter quarter. Five credits.

Section 1, Daily at 10. Tingey

Section 2, Daily at 8. Tingey

46. **Trigonometry**—Prerequisite: Math. 45. Spring quarter. Five credits.

Section 1, Daily at 10.

Tingey

Section 2, Daily at 8.

Tingey

47. **Elementary Calculus**—An introduction to differential and integral calculus. Prerequisite: Math. 46. Fall quarter. Five credits.

Daily except Saturday at 10.

Saxer

60. **The Mathematical Theory of Investment**—Prerequisite: Mathematics 21 or 30. Fall quarter. Three credits.

M. W. F. at 11.

Saxer

61. **Probability and Life Insurance**—A continuation of Mathematics 60. Prerequisite: Mathematics 60. Winter quarter. Three credits.

M. W. F. at 11.

Saxer

118, 119. **Differential and Integral Calculus**—A continuation of Course 32. Winter and Spring quarters. Five credits each quarter.

Daily except Saturday at 10.

Saxer

120. **Advanced Analytical Geometry**—With applications. Prerequisite: Mathematics 119. Fall quarter. Three credits.

T. Th. S. at 11.

Saxer

121. **Advanced Calculus**—Together with applications to engineering and the sciences. Prerequisite: Mathematics 120. Winter quarter. Three credits.

T. Th. S. at 11.

Saxer

122. **Differential Equations and Their Applications**—Prerequisite: Mathematics 121. Spring quarter. Three credits.

T. Th. S. at 11.

Saxer

160, 161, 162. **Seminar in Mathematics**—Arranged for students majoring in mathematics, honors candidates, and graduate students. Advanced topics in Analytical Geometry, Calculus, Differential Equations, and Statistical Methods may be chosen.

Time and credit to be arranged

Saxer

MODERN LANGUAGES AND LATIN

F. R. ARNOLD, Professor; FRED HAMMERLY, Instructor.

FRENCH

1, 2, 3. **First Year French**—Walther and Ballard's Beginner's French, for grammar and conversation. About 800 pages of modern prose are read. Fall, Winter, and Spring quarters. Five credits each quarter.

Sec. 1, M. T. W. Th. F. at 11.

Arnold

Sec. 2, M. T. W. Th. F. at 8.

Hammerly

101, 102, 103. **Second Year French**—Dictation and original composition. History of France by Lavissee. Study of French literature of the nineteenth century with reading of about 600 pages from Victor Hugo, Daudet, and Loti. Three credits each quarter.

M. W. F. at 10.

Arnold

104, 105, 106. **French conversation and composition**—Weekly debates in French on such subjects as militarism, education, country towns, and college pleasures. Writing up of each debate in French. Prerequisites: Two years of college French or three years of high school. Fall, Winter, and Spring quarters. One credit each quarter.

Sat. at 9.

Arnold

107, 108, 109. **Reading Course in Leading Plays of the Nineteenth Century**—Prerequisites: two years of college French, or three of high school. Fall, Winter, and Spring quarters. One credit each quarter.

(Not given 1928-29.)

110, 111, 112. **Research Work in French Periodicals and Books**, on any one of the following subjects:

- (a) Landscape gardening.
- (b) Percheron horses.
- (c) French finance.
- (d) French scientific reports.
- (e) Home economics.
- (f) Aviation.

The work will consist of outside reading and weekly reports to the instructor. Prerequisites: Two years of college French, or three years of high school. Fall, Winter, and Spring quarters.

Hours and credits to be arranged with instructor

Arnold

113, 114, 115. **Reading Course in Classic Plays of Seventeenth Century in France**—Fall quarter, plays of Corneille. Winter quarter, plays of Racine. Spring quarter, plays of Moliere. Prerequisite: two years of college French. Two credits each quarter.

T. Th. at 9.

Arnold

GERMAN

1, 2, 3. **First Year German**—Grammar, reading, and conversation, Fall, Winter, and Spring quarters. Five credits each quarter.

M. T. W. Th. F. at 9.

Hammerly

101, 102, 103. **Second Year German**—Reading of modern texts, grammar, composition. Fall, Winter, and Spring quarters. Three credits each quarter.

M. W. F. at 10.

Hammrely

104. **Scientific German**—Reading of Scientific texts. Specially recommended for students who are planning to do advanced work in the sciences, or who are working for advanced degrees. Prerequisite: two years of college German. Fall quarter. Two credits.

M. W. at 9.

Arnold

105, 106. **Research work in German in German Periodicals and scientific books in the following subjects:**

- (a) Chemistry.
- (b) Medicine.
- (c) Biology.
- (d) Botony.
- (e) Agronomy.
- (f) Sociology.

Prerequisite: German 104.

Hours and credits to be arranged with instructor.

Arnold

107, 108, 109. **Detailed study of Goethe's Faust**—Prerequisite: two years of college German. Fall, Winter, and Spring quarters. One credit each quarter.

F. at 9.

Arnold

SPANISH

1, 2. **First Year Spanish**—Grammar, conversation, and reading. Winter and Spring quarters. Five credits each quarter.

Daily, except Saturday, at 10.

3. **Spanish**—Business correspondence, reading, and conversation. Fall quarter. Three credits.

M. W. F. at 9.

LATIN

1, 2, 3. **Grammar and Reading**—and study of English vocabulary. Fall, Winter, and Spring quarters. Three credits each quarter.

T. Tb. S. at 10.

Arnold

9. **Scientific Vocabulary**—Intensive study of English word formation, derivation, synonyms, and figurative language in order to acquire a large English vocabulary, and to be able to understand scientific terms. Spring quarter. Three credits. See English 9.

M. W. F. at 9.

Arnold

MUSIC

BRIGHAM CECIL GATES, Professor; WALTER WELTI, Assistant Professor; CLARENCE J. HAWKINS, Band Master.

ASSOCIATED TEACHERS

William Spicker, Violin

Albert J. Southwick, Vocal

Samuel E. Clark, Piano

Mrs. Walter Welti, Piano

Mrs. Frances Winton Champ, Piano

N. W. Christiansen, Violin

A. L. Farrell, Vocal

All students majoring in Music must be proficient on at least one instrument or voice. Enough instruction must have been taken to reach the required standard. (The head of the department should be consulted at least three quarters before graduation in relation to the foregoing.) In addition, a department major must include for instrumentalists Music 109, 110, 111, 112, (harmony) 121, 122 (Band and orchestra arranging); for vocalists, music 109, 110, 111, (harmony) 30, 31 (public school music.)

1. **Elementary Theory**—Preliminary to the study of Harmony, Public School Music, and other technical subjects. Reviews the ground work necessary for students desiring a thorough knowledge of music. Keys, scales, intervals, melody writing, sight reading. Fall quarter. Three credits.

T. Tb. S. at 10.

Welti

4, 5, 6. **Appreciation and History of Music**—From text. This course deals with the history of music from its beginning to the present. Fall, Winter, and Spring quarters. Three credits each quarter. No credit will be given for less than two consecutive quarters.

M. W. F. at 11.

Welti

15, 16, 17. **Orchestra Combinations**—Students may enter this course by permission of the teacher only. Instrumental trios, quartetts, etc., for ensemble training. Students taking this course will be required to furnish music for assemblies and school functions. Fall, Winter and Spring quarters. One-half credit each quarter.

Time to be arranged

Gates

18, 19, 20. **Symphony Orchestra**—Provides training and practical experience in a wide range of orchestral work. Students are required to play at all public appearances of the orchestra. Fall, Winter, and Spring quarters. One and a half credit each quarter.

T. and Tb. 11 to 1.

Gates

21, 22, 23. **Chorus**—To furnish music for chapel exercises and special occasions. Three hours a week. Fall, Winter, and Spring quarters. One credit each quarter.

M. W. F. at 12.

Wolti

24, 25, 26. **Male Glee Club**—Fall quarter open to all male singers. Membership is limited in number; consult instructor. Three hours a week. Fall, Winter, and Spring quarters. One credit each quarter.

M. W. F. at 10.

Wolti

27, 28, 29. **Ladies Chorus**—Open to all women singers. Membership is limited; consult instrutor. Fall, Winter, and Spring quarters. One credit each quarter.

T. Tb. S. at 11.

Wolti

30, 31. **Public School Music for Grade Teachers**—To prepare teachers to teach music in the grades. The fundamentals of music and how to present them to children, emphasizing singing and song material. Care and development of the child voice. Winter and Spring quarters. Three credits.

M. W. F. at 9.

Wolti

40. **Beginners' Band**—For students needing preparatory work for the regular school band. Fall quarter. One-half credit.

T. at 12.

Hawkins

41, 42, 43. **Band**—To provide for study and practice of band instruments, and to furnish music for athletic meets and out-door gatherings. Fall, Winter, and Spring quarters. One credit each quarter. In addition students may receive for Military Science one-half credit per quarter for the first two years and one credit for the third year. (Refer to Military Science).

Hawkins

44, 45, 46. **Brass Quartetts**—(Students may take this course by permission of the teachers only). Students taking this course will be required to play for school functions. Fall, Winter, and Spring quarters. One-half credit each quarter.

One day a week

Hawkins

109, 110. **Elementary Harmony**—Prerequisite: Ability to read music well at sight. Unless students have had good training in the fundamentals, Music 1 should be taken as a preliminary study to harmony. Chord construction up to modulation. Winter and Spring quarters. Three credits each quarter.

Winter, T. W. Th. at 10.

Spring, M. T. Th. at 10.

Gates-Hawkins

111, 112. **Advanced Harmony**—Prerequisites: Music 109, 110. Chord construction including modulation, secondary sevenths, mixed chords. This course leads to a practical knowledge of this subject, useful for any instrument, vocal, arranging, or composition. Fall and Winter quarters. Three credits each quarter.

T. W. Th. at 9.

Gates

121. **Band Instrumentation and Arranging**—Prerequisites: 109, 110, and the ability to play at least one instrument well. This course is designed to give students a knowledge of the band instruments, their range, character, and transpositions. It will also teach practical arranging for the same. Winter quarter. Two credits.

M. T., Time to be arranged

Hawkins

122. **Orchestration and Arranging**—Prerequisites: 109, 110, and the ability to play one orchestral instrument well. Students should also take 121. Designed to give students a theoretical knowledge of all orchestral instruments, range, character and transposition and teach practical arranging for large and small orchestras. Spring quarter. Two credits.

T. Th. Time to be arranged.

Gates

130. **Conducting**—The art and technic of the baton. Time beating, intrepertation, etc. Fall quarter. One credit.

W. at 11,

Hawkins

Private Instruction Courses

(Note:—The following subjects are given in private lessons only. Special fees are charged, ranging from \$1.00 to \$2.50 per lesson, varying with the different teachers and subjects.)

50, 51, 52. **Private Piano Lessons**—(A minimum of 6 hours practice a week for one lesson, and 12 for two lessons). For one lesson a week, one and one-half credits each quarter. For two lessons a week three credits each quarter.

Time to be arranged *B. Cecil Gates and Associated Teachers*

53, 54, 55. **Private Vocal Lessons**—For one lesson a week, one and one-half credits each quarter. For two lessons a week three credits each quarter.

Time to be arranged *Walter Welti and Associated Teachers*

56, 57, 58. **Brass and Woodwind Instruments**—A minimum of six hours practice a week for one lesson, and twelve hours for two lessons. For one lesson a week, one and a half credits each quarter. For two lessons a week, three credits each quarter.

Time to be arranged *Hawkins*

123. **Advanced Band Instrumentation and Arranging**—Continuation of 121. Given in private or class lessons. One and one-half credits each quarter.

Time to be arranged *Hawkins*

124. **Advanced Orchestration and Arranging**—Continuation of 122. Given in private or class lessons. One and one-half hours credits each quarter.

Time to be arranged *Gates*

130, 131, 132. **Counterpoint**—Study of polyphonic music writing. A continuation of advanced harmony. Prerequisites: 109, 110, 111, 112. Given in private lessons only. One and one-half hours credit each quarter for one lesson a week.

Time to be arranged *Gates*

134, 135, 136. **Composition**—The study of the methods of music writing. Small forms and development. Prerequisites: 109, 110, 111. Given in private lessons only. One and one-half credit each quarter.

Time to be arranged *Gates*

PHYSICAL EDUCATION

W. B. PRESTON, JOS. R. JENSON, CATHARINE C. CARLISLE, Associate Professors; E. L. ROMNEY, Director of Athletics; CHARLOTTE E. DANCY, CHRISTINE B. CLAYTON, Assistant Professors.

Because Physical Education determines capacity for efficiently carrying out work which a student prepares for in College, it is being emphasized more and more each year.

At the beginning of every school year each student is given a medical and physical examination, so that he can be adjusted properly to his physical activities.

Physical Education is required in the Utah Agricultural College for six quarters. One credit hour is given for each quarter.

Freshmen are required to meet twice a week for corrective gymnastics. Sophomores meet twice a week for advanced activity courses.

THE COLLEGE HEALTH SERVICE

The Health Service is maintained primarily for the care of students who may become ill during their stay on the campus. It is also looked upon as an educational department to teach preventive medicine and hygiene. Through its consultations, examinations, and advice it attempts to point out the causes of ill health, and to present clearly the fundamental laws of good health.

PROFESSIONAL COURSES IN PHYSICAL EDUCATION

Because of the great demand for trained leaders in community recreation and playground managers; for directors of physical education in high schools, high school coaches, etc., this department offers an opportunity to major or minor in physical education and also to meet the state requirements for certification of teachers of physical education and coaching in high schools.

PHYSICAL EDUCATION FOR MEN

All courses in Smart Gymnasium.

1, 2, 3. **Freshman Gymnastics and Games**—Designed to furnish activity of such a kind and in such a way as will insure correct posture and physical efficiency. Required of all Freshmen. Every quarter. One credit each quarter.

Sec. 1, M. W. at 9, Sec. 2, W. F. at 10, Sec. 3, M. W. at 12, Sec. 4, M. W. at 2.

Jenson and

4, 5, 6. **Sophomore Gymnastics**—A continuation of Physical Education 1 with emphasis on more advanced types of gymnastics and heavy apparatus. Every quarter. One credit each quarter.

Sec. 1, T. Th. at 9, Sec. 2, M. W. at 11, Sec. 3, T. Th. at 2, Sec. 4, T. Th. at 10. *Jenson*

8, 9, 10. **Individual Gymnastics**—The work of this course is given for those students who are physically unable to take Physical Education 1, 2, 3, 4, 5, 6. It is arranged to meet the needs of the individual students, as indicated by the physical examination and study of personal tendencies. Fall, Winter, and Spring quarters. One credit each quarter.

Hours to be arranged

Jenson

PHYSICAL EDUCATION FOR WOMEN

13, 14, 15. **Freshman Gymnastics**—This course consists of exercises arranged according to their hygienic, corrective, and educational value: folk dancing, games, and athletics. Required for graduation. Fall, Winter, and Spring quarters. One credit each quarter.

Sec. 1, M. W. at 9, Sec. 2, T. Th. at 10, Sec. 3, M. W. at 12.

Carlisle and

16, 17, 18. **Advanced Gymnastics**—A study of advanced exercises gymnastics, marching, apparatus work, and teaching methods. Fall, Winter, and Spring quarters. One credit each quarter.

T. Th. at 11.

Carlisle and

19, 20, 21. **Individual Gymnastics**—This course is given for those students physically unable to take Physical Education 13, 14, 15, 16, 17, 18. It is arranged to meet individual needs, as shown by physical examination and study of personal tendencies. Fall, Winter, and Spring quarters. One credit each quarter.

Hours to be arranged

Carlisle

PROFESSIONAL COURSES

31, 32, 33. **Natural Dancing**—For women. This course consists of dancing based on natural movements. It offers opportunity for music interpretation and pantomic dancing. Fall, Winter, and Spring quarters. One credit each quarter.

M. W. F. at 2.

Carlisle

41, 42, 43. **Elementary Folk Dancing**—For men and women. Includes study of fundamental dance steps, simple folk and national dances, and the presentation of dance material to different age groups. Particularly suited to needs of Two-year Normal students. Fall, Winter, and Spring quarters. One credit each quarter.

M. W. F. at 11.

Carlisle

81, 82, 83. **Competitive Athletics**—For women. Includes practice and methods of coaching sports and athletics for girls. Baseball, soccer, volley ball, tennis, track and field events. Arranged seasonally. Fall, Winter, and Spring quarters. One credit each quarter.

M. T. W. Th. at 4.

Carlisle and

91, 92, 93. **Swimming**—For women. This course covers swimming for beginners, advanced swimming and diving life saving. Fall, Winter, and Spring quarters. One credit each quarter.

Sec. 1, T. Th. F. at 12, Sec. 2, M. W. F. at 2.

71. **The Dramatic Game**—For women. This course takes up the fundamental play rhythms and music and singing games, showing their historical and racial significance; the development of simple folk dances from singing games; trade dances; Indian dances; pantomimes and ceremonies. Fall quarter. Two credits.

M. W. at 10.

Carlisle

72. **Theory and Practice of Plays and Games**—For men and women. Study of the theories offered in explanation of the play instinct. Methods of presentation and organization of play material for school and playground are considered. Winter quarter. Three credits.

M. W. F. at 10.

Carlisle

73. **Community Recreation Leadership**—For men and women. Consist of lectures and practical work. Lectures will consider selection of suitable material, and methods of handling various groups. The practice hour will take up games and folk dances. Spring quarter. Two credits.

T. Th. at 9.

Jenson

74. **Advanced Swimming**—For men. A continuation of course 3. The student will be required to pass certain standard test. Winter quarter. Two credits.

M. W. at 4

Jenson and

75. **Competitive Activities**—A course designed to teach students to play basketball, volley ball, tennis, baseball, soccer, football; also the organization of internal athletics, leagues, etc. Fall quarter. Two credits.

T. Th. at 11.

Jenson

76. **Advanced Gymnastics**—A study of methods of teaching gymnastics, such as parallel bars, side horse, rings, Indian clubs, as well as advanced floor work in calisthenics. Winter quarter. Two credits.

T. Th. at 11.

Jenson

77. **Personal Hygiene for Men**—Lectures covering personal and general hygiene, including care of skin, hair, teeth, nails, care of special senses as eye, ear nose and throat; study of rest, exercise, and recreation. Winter quarter. Two credits.

T. Th. at 8

Jenson

106. **Applied Anatomy and Physiology of Exercise**—Prerequisite: Physiology 4. Fall quarter. Five credits.

Daily, except Sat., at 11.

Carter

108. **Corrective Gymnastics for Women**—Prerequisite: Physical Education 106. Open to Juniors and Seniors. This course gives theory and practice of exercise for correction of such common physical defects as flat feet, poor posture and spinal curvature. Spring quarter. Three credits.

M. W. F. at 10.

Carlisle

111. **Nutrition**—For athletes and Physical Education Majors. For description, refer to Department of Foods and Dietetics. Fall quarter. Two credits.

T. Th. at 9.

Clayton

120. **Methods of Coaching**—For men. A theoretical consideration of training and coaching of men's athletic teams. Fall and Winter quarters. One credit each quarter.

Time to be arranged

Romney

134, 135, 136. **Advanced Natural Dancing**—For women. A continuation of Physical Education 31, 32, 33. This course also includes methods of teaching musical interpretation through natural movement. Fall, Winter, and Spring quarters. One credit each quarter.

M. W. F. at 3.

Carlisle

144, 145, 146. **Advanced Folk and Character Dancing**—For men and women. A continuation of Physical Education 41, 42, 43. More elaborate Folk dances, clogging, program dances, and Pageant and Festival production will be taught in this course. Fall, Winter, and Spring quarters. One credit each quarter.

T. Th. at 9.

Carlisle

151, 152, 153. **Principles of Physical Education**—For women. This course deals with the principles and methods involved in teaching gymnastics, dancing, games, and swimming. Special attention is given to consideration of High School course of study. Prerequisites: Physical Education 41, 42, 43, 71, 72, 73. Physical Education 81, 82, 83, 91, 92, 93 should precede or parallel this course. Fall, Winter, and Spring quarters. Two credits each quarter.

T. Th. at 12.

Carlisle

109. **Corrective Gymnastics**—For men. Open to Juniors and Seniors. This course is devoted to the application of gymnastics for the correction of such common defects as flat feet, spinal curvature, etc. Prerequisite: Physical Education 106. Spring quarter. Three credits.

T. Th. at 11, and 2 Hours laboratory per week.

Jenson

161, 162, 163. **Principles of Physical Training for Men**—(Open to Juniors and Seniors). This course includes a comparison of the various systems of Gymnastics teaching in vogue today; also, the objective of Physical Education. Special attention is given to consideration of high school course of study. Prerequisites: Physical Education 73, 74, 75, 76, 77, 106. Fall, Winter, and Spring quarters. Two credits each quarter.

M. W. at 11.

Jenson

170. **Physical Diagnosis and Measurements**—For men and women. This course aims to train the prospective physical director to detect the common physical defects. Instruction is given in methods of taking measurements, and in strength tests. Prerequisite: Physical Education 106. Spring quarter. Three credits.

M. W. F. at 11.

Preston

PHYSICS

FRANK L. WEST, WILLARD GARDNER, Professors; *N. E. EDLEFSEN, Assistant Professor; CYRUS L. CLARK, Research Assistant.

1, 2. **General Physics**—A lecture demonstration course, designed for students not majoring in Physics or Engineering and requiring a minimum of mathematics. It includes mechanics, heat, electricity and magnetism, sound, and light with their most interesting applications to industry and to life. Fall and Winter quarters. Five credits each quarter.

Daily, except Sat. at 8.

West

*Absent on leave.

10. **General Astronomy**—Prerequisite, general physics. Spring quarter. Five credits.

(Not given in 1928-29)

West

16. **Meteorology, or Physics of the Atmosphere**—The methods of weather observation, predictions, frost warnings and the relation of climate to man and to agriculture. Prerequisite: Elementary physics. Fall quarter. Two credits.

(Not given in 1928-29)

20, 21, 22. **Mechanics, Molecular Physics, Electricity and Magnetism, Heat, Light and Sound**—Prerequisite: High school physics. Fall, Winter and Spring quarters. Five credits each quarter.

Lec. T. Th. S. at 9, Lab. M. W. or T. Th., 2 to 5.

West

104, 105, 106. **Physical Chemistry**—Including atomic theory, kinetic theory of gases, electron theory, gaseous, liquid and solid states; solutions, thermo-chemistry, electro-chemistry and radio-activity and elementary thermo-dynamics. General physics, chemistry, and calculus should precede or accompany this course. Fall, Winter and Spring quarters. Four credits each quarter.

Lec. M. W. F. at 9, Lab. F., 2 to 5.

West

107. **Advanced Laboratory Work**—Electricity and magnetism, or physical chemistry. One to five credits each quarter. Recommended to students majoring in physics.

Time to be arranged

West

110. **Elementary Electrical Engineering**—For engineering students and majors in physics. Spring quarter. Three credits.

M. W. F. at 10.

West

111, 112. **Direct and Alternating Current Electricity and Its Application to Industry**—Winter and Spring quarters.

(Not given in 1928-29)

Edlefsen

118. **Thermodynamics, For Engineering Students**—Fall quarter. Three credits.

M. W. F. at 10.

West

119. **Kinetic Theory, and Atomic Structure**—Three credits.

(Not given in 1928-29)

West

150, 151, 152. **Applied Mechanics for Engineers**—Prerequisite: Calculus. Fall, Winter and Spring quarters. Five credits each quarter.

Doily, except Sat. at 8.

Feldman

190, 191, 192. **Theoretical Physics**—An introduction to mathematical Physics. Prerequisites: Physics 20, 21, 22, and Calculus. Fall, Winter and Spring quarters. Three credits each quarter.

T. Th. S. at 10. Gardner

225, 226, 227 **Seminar**—One of the following graduate courses will be given each year. Prerequisite: Calcurlus. Fall, Winter and Spring quarters. Three credits each quarter.

M. W. F. at 11. Staff

209, 210, 211. **Theoretical Mechanics**—

Led by Gardner

212, 213, 214. **Hydrodynamics**—

Led by Gardner

215, 216, 217. **Mathematical Theory of Electricity and Magnetism.**

Led by Edlefsen

218, 219, 220. **Thermodynamics and Physical Chemistry**—

Led by West

PSYCHOLOGY

HENRY PETERSON, Professor

1. **Introductory Psychology**—A first course in the study of human behavior. Designed to help students better to study, and to direct their educational careers in College, and to understand in a general way the psychology of profession, trade, and industry. This course should be taken in the Freshman year. Three credits.

Sec. 1, Fall, T. Th. S. at 10, Sec. 2, Fall, M. W. F. at 10, Sec. 3, Winter, T. Th. S. at 9. Peterson

2. **Elementary Educational Psychology**—This course is designed for those who are preparing to teach in elementary schools. It meets requirements for certification in this and adjoining states. It should be taken in the Freshman year. Prerequisite: Psychology 1 or an equivalent introductory course. Spring quarter. Three credits.

T. Th. S. at 10. Peterson

3. **Elementary Educational Psychology**—This course is designed for those who are preparing to teach in elementary schools. It meets requirements for certification in this and adjoining states. Should be taken in the Freshman year. No prerequisites. Five credits.

Sec. 1, Fall, Daily, except Sat. at 11, Sec. 2, Winter, Daily, except Sat. at 11, Sec. 3, Spring, Daily except Sat. at 11.

Peterson

101. Principles of Psychology—This is a general course in the science of human behavior. It is open to senior college students whether they intend to enter the teaching profession or go into other pursuits. Three credits.

Sec. 1, Fall, T. Tb. S. at 8, Sec. 2, Winter, M. W. F. at 8.

Peterson

102. Advanced Educational Psychology—Designed for those who are preparing to teach in high schools, or to become leaders in other lines of social activity. This course applies the science of psychology to the processes of teaching and leadership. Prerequisite: Education 101 or equivalent. Required for certificates to teach in high schools. Three credits.

Sec. 1, Winter, T. Tb. S. at 8, Sec. 2, Spring, M. W. F. at 8.

Peterson

103. Psychology of Adolescence—A study of the behavior of adolescents. Designed for high school teachers, and others engaged in leadership of young people. Prerequisite: Education 101 or equivalent. This course may be used for high school certification. Spring quarter. Three credits.

T. Tb. S. at 8.

Peterson

104. Experiments in Educational Psychology—The formation of habits, the basic principles of memory, the acquirement of skills, the testing of the acuity of the senses, the transfer of training, and other kindred subjects will be studied experimentally. Fall, Winter, or Spring quarter. One credit each quarter. Fee \$1.50, to be paid at time of registration.

T., 2 to 4.

Peterson

PUBLIC HEALTH AND BACTERIOLOGY

(Including Physiology and Biochemistry)

J. E. GREAVES, Professor; E. G. CARTER, Associate Professor; C. E. DANCY, Assistant Professor; C. E. ZOBELL, Instructor.

1. General Bacteriology—This course deals with the biology and significance of bacteria. The following are considered: The development of bacteriology; the morphology and physiology of bacteria; bacteria in air, food and water, and the role they play in the arts and industries. Where possible this course should be accompanied by Bacteriology 2. Fall, Winter or Spring quarter. Three credits.

Sec. 1, Fall, M. W. F. at 8.

ZoBell

Sec. 2, Fall, M. W. F. at 10.

Greaves

Sec. 3, Winter, M. W. F. at 8. ZoBell

Sec. 4, Winter, Agricultural Bacteriology, M. W. F. at 9. ZoBell

Sec. 5, Spring, M. W. F. at 8. Zobel

2. General Bacteriology (Laboratory)—It is desirable that this accompany Bact. 1. Breakage deposit \$2.50. Fall, Winter or Spring quarters.

Sec. 1, Fall, T. Th., or W. F., 2 to 5. Greaves or Carter

Sec. 2, Winter, T. Th., or W. F., 2 to 5. Greaves

Sec. 3, Spring, T. Th., 2 to 5. Greaves

3. Pathogenic Bacteriology—The pathogenic bacteria are considered in relation to disease. The subject of immunity is stressed. Prerequisite: Bacteriology 1. Breakage deposits, \$2.50. Winter quarter. Five credits.

(Not given in 1928-29) Carter

4. Anatomy and Physiology—A study of the structure and function of the human body. Fall, Winter or Spring quarters. Five credits.

Fall, Daily, except Sat. at 9. Dancy

Winter, Daily, except Sat. at 9. Carter or Dancy

Spring, Daily, except Sat. at 10. Dancy

***14. Health Education**—(May be used for Grammar Grade certification). The laws and principles of hygiene are stressed in relation to the grade schools. The teaching of health in the grade schools receives special consideration. Two year Normal students only may register in this course, unless special permission is obtained. Fall or Winter quarters. Four credits.

Sec. 1, Fall, M. W. F. S. at 8, Sec. 2, Fall, M. W. F. S. at 9, Sec. 3, Winter, M. W. F. S. at 8. Carter

101. Bacteriology—An advanced course in special phases of bacteriology. Prerequisite: General and organic chemistry. Given in 1928-1929 if called for by at least six properly prepared students. Graduate students may arrange with the professor and receive graduate credit by registering for 201. Winter quarter. Three credits.

T. Th. S. at 10. Greaves

102. **Soil Bacteriology**—Bacteria are considered in relation to soil fertility. The class will be conducted much as a seminar. Graduate students should arrange with the professor in charge for graduate credit, and register for 202. Prerequisite: Bacteriology 1. Fall quarter. Three credits.

M. W. F. at 9.

Greaves

103. **Soil Bacteriology**—Methods used in bacteriological investigations. Should accompany Bacteriology 102. Prerequisites: Bacteriology 1, 2, and Chemistry 103. Breakage deposit \$2.50. Fall quarter. Two credits.

W. F., 2 to 5.

ZoBell

(*Cannot be counted in Biological Science group).

104. **Dairy Bacteriology (Lecture)**—The bacteria of milk, butter, and cheese, and their relation to disease. Prerequisite: Bacteriology 1. Winter quarter. Five credits.

Lecture M. W. F. at 9. Lab. W. F., 2 to 5.

Carter

*106. **Applied Anatomy and Physiology of Exercise**—Prerequisite: Physiology 4. Fall quarter. Five credits.

Daily, except Sat. at 11.

Carter

(*Cannot be counted in Biological Science group).

107. **Physiology**—An advanced course in special phases of physiology. Prerequisite: Physiology 4. Winter quarter. Five credits.

Daily, except Sat., at 11.

Carter

108, 109. **Public Health and Hygiene**—(May be used for High School certification). This course deals with the physical and mental health of the individual, and his relationship to other members of the community. Some of the subjects considered are: Nature and prevention of diseases; food in its relationship to the well-being of the individual; heating, ventilation; occupational diseases; and especially the promotion of health through education. Prerequisite: Bacteriology 1. Winter and Spring quarters. Three credits each quarter.

M. W. F. at 10.

Greaves or ZoBell

111. **Physiological Chemistry**—The transformation going on in the plant and animal. Prerequisites: Organic chemistry. Spring quarter. Five credits.

Daily, except Sat., at 9

Greaves

112. **Physiological Chemistry**—A laboratory course which may accompany Bacteriology 111. Spring quarter. Two credits.

Greaves

113, 114, 115. **Biochemistry**—A study of the chemical transformation going on in the animal body. The class will be conducted much as a seminar. Graduate students should arrange with the professor in charge for graduate credit, and register for 213, 214, and 215. Two credits each quarter. Fall, Winter and Spring quarters.

T. Tb. at 1.

Greaves

116. **Sanitary Analysis**—Methods used by the sanitary inspector in examining water, milk, and other foods. Prerequisites: Chemistry 103, and Bacteriology 1 and 2.

Time and credit to be arranged

Greaves

GRADUATE COURSES

207. **Research**—The laboratory and library facilities are especially arranged for advanced students in bacteriological investigation in agriculture, household science, the industries, sanitary science, and veterinary science.

Time and credit to be arranged

Greaves and Carter

208, 209, 210. **Seminar**—Fall, Winter and Spring quarters.

Time and Credit to be arranged

Greaves

ZOOLOGY AND ENTOMOLGY

*W. W. HENDERSON, H. J. PACK, Professors.

Students specializing in Zoology must take courses 3, 4, 13, 111, 1112, 113, 108, or 116, 124, 125 and 126.

1. **Elementary General Zoology**—A study of morphology, physiology, differentiation, adaptation, and other zoological principles. A brief survey of the animal kingdom is undertaken to illustrate the application of the foregoing principles in the various groups. Special emphasis is placed on man's relation to the rest of the animal world. This course is intended for those who have not studied Zoology before, and who desire only a general view of the subject. It is recommended for all students except those in Agriculture and Arts and Sciences who desire a more comprehensive course. Fall, Winter or Spring quarters. Five hours credit.

Sec. 1, Fall, Lec. daily, except Sat. at 8, Lab. T. or F., 2 to 5.

Sec. 2, Winter, daily, except Sat. at 11, Lab. T. or F., 2 to 5, Sec. 3, Spring, daily, except Sat. at 8, Lab. T. or F., 2 to 5. Pack

*On leave of absence.

3, 4. **General Zoology**—A systematic study of the animal kingdom, its general classification and the relationship of the various groups of animal to each other. Emphasis is placed upon structural characteristics, development, functions, and relation of organs in the different groups. This course is well adapted for premedical students. Fall and Winter quarters. Five credits each quarter.

Lec. T. Th. S. at 9, Lab. M. W., 2 to 5.

13. **General Entomology**—A study of the structure, classification and life histories of insects. A course for students who desire a general knowledge of our common insects. Required of all students majoring in Zoology. Some field trips will be taken. Fall quarter. Four credits.

T. Th. S. at 8, Lab. W., 2 to 5.

Pack

14. **Economic Entomology**—Life histories and methods of control of the more injurious insects, with special reference to those of the intermountain region. Winter quarter. Four credits.

T. Th. S. at 8, Lab. W., 2 to 5.

Pack

102, 103, 104. **Systematic Entomology**—The structure of insects is studied sufficiently to enable the student to use keys employed in classification. Each student must collect, mount, and properly identify a representative collection of insects found in the vicinity of Logan. Fall, Winter and Spring quarters. Three credits each quarter. Graduate credit may be allowed for this course.

T., 2 to 5, and two other laboratory periods.

Pack

106. **Entomological Literature**—Each student investigates and reports on the literature of some insect within his state. Historical development of entomology, current entomological literature and bibliographies are considered. Prerequisites: Entomology 13, 14, and 102. Graduate credit may be allowed for this course. Fall or Winter quarter. Three credits.

Hours to be arranged

Pack

107. **Entomological Technic**—A study of methods of collecting, preserving and rearing insects, designed to fit students for specialized work in entomology. Graduate credit may be allowed for this course. Prerequisites: Entomology 13, 14 and 102.

(Not given 1928-29).

Pack

108. **Insects in Relation to Man**—Insects that annoy man, and that carry disease, as well as beneficial insects are considered. A course of important information. Lectures and assigned readings. Winter quarter. Three credits.

Lec. M. W. at 10, Lab. Th., 2 to 5.

Pack

111. **Genetics**—The biological principles of life and the inheritance of character. A study of the germ cells with reference to heredity. The questions of variation, mutation, the inheritance of acquired characters, pure lines, Mendelism, sex-determination and genetic principles generally are the main subjects of discussion. Prerequisites: Zoology 1 or 4. Fall quarter. Five credits.

Daily, except Sat. at 11.

112. **Eugenics**—The principles of genetics as applied to the human race. Attention is given the historical development of and needs for eugenics, the inheritance of physical, mental and moral traits, human crosses, consanguineous marriages, eugenic procedure and other principles which influence the innate qualities of human beings. Prerequisite: Zoology III. Spring quarter. Three credits.

M. W. F. at 11.

113, 114. **Comparative Anatomy**—The structure of the vertebrate animal body. In the Winter quarter students will make a thorough dissection of a sexually mature dog-fish shark and in the Spring quarter of a sexually mature cat. Prerequisite: Zoology 1, or 4. Zoology 113, is prerequisite to Zoology 114 and both are prerequisite to Zoology 115. Winter and Spring quarters. Four credits each quarter. Two lectures and two laboratory periods a week.

Lec. M. W. at 9, Lab. T. Th., 2 to 5.

115. **Embryology of the Vertebrates**—A general course in embryology. A comparative study of embryological development of Amphioxus, frog, chick and man. Prerequisite: Zoology 113, 114. Spring quarter. Five credits. Hours to be arranged. Three lectures and two laboratories a week.

(Not given 1928-29).

116. **Parasitology**—The classification, morphology and life history of human parasites. The disease-producing protozoans, flukes, tape-worms, and round worms receive special study. Arthropods as external parasites and carriers of pathogenic organisms receive attention. This course should be taken by all premedical students. Spring quarter. Four credits.

(Not given 1928-29).

121. **Histology**—A general course of Histology. Lectures and laboratory work in the principles of technic, practice in the preparation of slides and a study of epithelial tissue. Prerequisite: Zoology 3, 4.

Time and credit to be arranged.

124, 125, 126. **Seminar**—The students and faculty of the department meet for one hour each week and hear reports from the members of the seminar on topics of mutual interest. Students specializing in Zoology must attend and participate in the activities of this seminar for at least three quarters. One credit each quarter.

Time to be arranged

The Staff

131. **Organic Evolution**—A critical study of the facts of evolution as obtained from a careful study of comparative anatomy, embryology, geographical distribution, blood tests and other fields upon which the doctrine of evolution is based. Factors causing evolution will be considered and discussions will be undertaken on other bodies of related thought. Prerequisite, some thorough course in biology. Spring quarter. Three credits.

T. Tb. S. at 10.

Pack

GRADUATE COURSES

201. **Zoological Research**—The student who wishes to engage in some line of original research and is qualified to do so may elect and study some topic from eugenics, ecology, morphology or other branch of zoology. Open to under-graduate students only by special arrangement with the department. Thesis required.

Hours to be arranged.

Pack

210. **Entomological Research**—Students may select or will be assigned certain problems dealing with different phases of entomology. The amount of credit will depend on the nature of the problem and the time spent. Thesis. Open to undergraduates only by special permission. Prerequisites: Entomology 13, 14, and 102.

Pack

COMMERCE

AGRICULTURAL ECONOMICS AND MARKETING

(Administered jointly by the schools of Agriculture and Commerce.)

W. L. WANLASS*, P. E. PETERSON, Professors; W. P. THOMAS, W. U. FUHRIMAN, Assistant Professors.

Note:—Students in the School of Agriculture or in the School of Commerce may major in this department. Students specializing in the division of Agricultural Administration should register in the School of Agriculture. This will lead toward such occupations as the management of farms, teaching of farm management, employment as county agents, etc. Students wishing to specialize in the division of Agricultural Marketing should register in the School of Commerce. This will lead towards the business of marketing, management of cooperative enterprises, etc.

The foundation work in the first two years is similar, and should include studies in the different branches of the School of Agriculture as well as in the School of Commerce. Liberality in the selection of these courses is permitted, depending upon the type of occupation which the student intends to follow after graduation; but it should include at least twelve credits from the School of Agriculture, and twelve from the School of Commerce before entrance to the Senior College. In the selection of these preliminary courses students should secure the approval of the Department of Agricultural Economics, and of the Department in the School of Agriculture or the School of Commerce offering the technical courses which they will later elect as a minor. These courses must be included to satisfy the requirements for a major in this field. Agricultural Economics 51, 101, 112, 113 103, and Agronomy 117.

51. **Principles of Agricultural Economics**—A general course in the principles and problems of Agricultural Economics, including the production on the farm, consumption of the products of the farm, distribution of the agricultural income, and government policies towards agriculture. Prerequisites: Economics 50 and 51. Spring quarter. Three credits.

T. Tb. S. at 9.

Fuhriman

102. **Farm Management**—A general course in the principles of management applied to a farming enterprise. A study of the problems involved in choosing, buying, planning, organizing and managing a farm. Discussions of proper size, balance, diversity, and economics of the farm business. A general course in agricultural economics and farm accounts should precede this course. Spring quarter. Three credits.

T. Tb. S. at 8.

Fuhriman

103. Farm Accounts—The practical application of accounting principles to farm management problems. Modifications to suit the different types of farming enterprises will be studied. Assembling and interpretation of accounting data. Lectures and assigned practice problems. Fall quarter. Four credits.

Lectures T. Th. at 10. Lab. M. F., 2 to 5.

Peterson

104. History of Agriculture—Development of agriculture, with emphasis on social and scientific phases; the successive steps by which modern agriculture has attained its present status. Fall quarter. Three credits.

M. W. F. at 11.

Fuhriman

105. Agricultural Finance—A study of the credit needs of farmers, and methods of meeting these needs. This involves a study of bank credit and agriculture, the Federal Farm Loan Act, the Federal Intermediate Credit Act, Cooperative credit, and any new legislation needed to provide for financing adequately the farming business of the country. Prerequisites: General Economics 50, 51, and Agricultural Economics 51. Spring quarter. Three credits.

M. W. F. at 10.

Fuhriman

106. Land Economics—Principles underlying the utilization, valuation, tenure, and conservation of our land resources available for crops, pastures, and forests. Prerequisite: Agricultural Economics 51. Fall quarter. Three credits.

M. W. F. at 10.

Fuhriman

112. Marketing of Agricultural Products—Problems of marketing specific farm products such as livestock, grain, potatoes, hay, dairy products, etc., will be studied from the standpoint of the economic forces which give rise to such problems. Possibilities of improvement of the present system will be considered. Prerequisite: Agricultural Economics 51. Fall quarter. Three credits.

T. Th. S. at 9.

Fuhriman

113. Cooperation in Agriculture—The fundamental elements of successful cooperation for production and marketing, purchase of supplies, storage and manufacturing of agricultural products. The experience of different parts of the world in relation to various types of products. Methods of organization. Laws regulating cooperative movement. Winter quarter. Three credits.

M. W. F. at 11.

Fuhriman

115. **Production Economics**—The dynamic economic adjustments of individual and community resources of land, labor capital and entrepreneurial ability to their maximum utilization. Winter quarter. Three credits.

M. W. F. at 10.

Fubriman

120. **Agricultural Prices**—Relationship between production and price of agricultural products; trends in prices of agricultural commodities in Utah and competing states, in comparison with prices of non-agricultural products; and price cycles in their relation to Utah's agriculture. Winter quarter. Three credits.

M. W. F. at 9.

Thomas

121. **Marketing Utah Farm Products**—Production and marketing trends in Utah and competing sections; geography of Utah's markets for agricultural products; and methods used in marketing farm products in Utah. Winter quarter. Three credits.

T. Th. S. at 8.

Thomas

190. **Advanced Agricultural Economics**—
(*Not given 1928-29.*)

Fubriman

191. **Advanced Farm Management**—
(*Not given 1928-29.*)

Fubriman

192. **Problems in Agricultural Marketing**—
(*Not given 1928-29.*)

Fubriman

211, 212, 213. **Agricultural Economics and Farm Management Seminar**—All seniors and graduate students majoring in this department are required to take part in these round table discussions of current problems and recent publications in Agricultural Economics and Farm Management. Fall, Winter, and Spring quarters. One credit each quarter.

Th. at 2.

Fubriman and Thomas

In addition to the above, several courses given in other departments will be acceptable for credit in Agricultural Economics and Marketing. The courses selected should receive the approval of the head of the department of Agricultural Economics and Marketing. A few of the courses available are listed herewith:

Forecasting—Business Administration 132.

Merchandising Problems—Business Administration 151, 152, 153.

Rural Sociology—Economics 101.

Rural Community Life—Economics 185.
Irrigation Institutions—Irrigation 107.
Cereal Crops—Agronomy 1.
Root Crops—Agronomy 2.
Forage Crops—Agronomy 3.
Seed Analysis and Testing—Agronomy 105.
Crop Products—Agronomy 119.
Market Types of Live Stock—Animal Husbandry 1.
Market Grades of Live Stock—Animal Husbandry 3.
Problems in Pedigreed Live Stock—Animal Husbandry 102.
Sheep and Wool Study—Animal Husbandry 109.
General Poultry—Poultry Husbandry 1.
General Farm Dairying—Dairy Husbandry 1.
Market Milk—Dairy Manufacturing 8.
General Horticulture—Horticulture 1.
*Commercial Pomology—Horticulture 152.
Orchard Management—Horticulture 101.
Vegetable Production—Horticulture 104.
Systematic Pomology—Horticulture 151.

*If only one course in Horticulture can be taken, Commercial Pomology is suggested. If two, Horticulture 1 should be added.

BUSINESS ADMINISTRATION AND ACCOUNTING

P. E. PETERSON, *W. L. WANLASS, Professors; R. M. RUTLEDGE, Associate Professor; V. D. GARDNER, Assistant Professor; THELMA FOGELBERG, Instructor.

ACCOUNTING

Accounting 101, 102, 103, may be used to satisfy in part the group requirements in exact science. No other courses in accounting may be so used.

Students may major in Accounting, Business Administration, Merchandising, Sales Management or Secretarial work.

1, 2, 3. **Introductory Accounting**—The purpose of this course is to present the introductory principles of accounting and to furnish working materials in the form of questions, problems, and practice sets which require the application of the theory advanced. Principles learned here will be useful as a basis for further study of accounting,

*Absent on leave.

and as an aid in the understanding and control of the more common problems of business. Technique will be strongly emphasized. Fall, Winter, and Spring quarters. Four credits each quarter.

Sec. 1, Lec. M. W. F. at 2, Lab. M. W., 3 to 5, F. 3 to 4. Sec. 2, (Includes only 1 and 2) Lec. M. W. F. at 11, Lab. M. W., 3 to 5, F., 3 to 4, Winter and Spring quarters *Gardner*

14. Intermediate Accounting—For students who are already familiar with the bookkeeping methods applicable to single proprietorships, partnerships, and corporations, and to manufacturing and trading companies. Principles applicable to such matters as profits, analysis of statements, no par stock, factory ledger, installment sales, and consignments will be considered. Spring quarter. Three credits.

M. W. F. at 10. *Gardner*

101, 102. Fundamentals of Accounting—A basic course in fundamental theory. Emphasis will be placed upon the construction and interpretation of accounts. Required of all students majoring in Business Administration and Accounting. Graduate credit may be allowed upon the completion of additional work. Pre-requisite: Mathematics 20. Fall and Winter quarters. Three credits each quarter.

M. W. F. at 8. *P. E. Peterson*

103. Accounting Practice and Procedure—A careful study is made of some of the leading problems encountered in public and private practice. Required of all students majoring in Accounting. Graduate credit may be allowed upon the completion of some additional work. Pre-requisites: Accounting 101-102, and Mathematics 20. Spring quarter. Three credits.

M. W. F. at 8. *P. E. Peterson*

104. C. P. A. Problems—A selection of the problems used by the various state boards of accountancy and the American Institute of Accountants. Fall quarter. Three credits.

(Not given 1928-92). *Gardner*

107. Household Accounts—The practical application of accounting principles to home management problems. Lecturers and assigned practice problems. Spring quarter. Four credits.

(Not given 1928-29.) *P. E. Peterson*

111, 112. Industrial Cost Accounting—A detailed study of the principles of cost accounting as applied to manufacturing industry, with particular stress upon methods of burden distribution and interpretation of cost statistics. Lectures with assigned problems and cases. Fall and Winter quarters. Three credits each quarter.

T. Tb. S. at 8. *Gardner*

120. 121. **Auditing**—A study is made of the theory and practice of auditing. Rules of professional conduct, and the duties and responsibilities of auditors are emphasized. A considerable time will be devoted to the mechanics of auditing, the preparation of field notes, and the final report. Open to graduate students. Pre-requisites: Accounting 101, 102, 103. Lectures, assigned cases, and field work. Winter and Spring quarters. Four credits each quarter.

Lec. T. Th. at 9. Lab. T. Th., 2 to 5.

P. E. Peterson

122. **Auditing Practice**—The department is usually able to provide a limited amount of actual practice. Only qualified students will be permitted to register for this work. Students must consult with and receive the approval of the instructor before registering. Fall quarter. Two credits.

T. and Th. afternoons, 2 to 5.

P. E. Peterson

124. **Seminar**—A reading and research course designed for seniors and graduates majoring in Business Administration and Accounting. Current articles are assigned for reading and report. Juniors may be admitted upon approval of the instructor. Required of all majors. One credit per quarter. A minimum of three and a maximum of six credits may be allowed. Lectures and reports. Fall, Winter, and Spring quarters. One credit each quarter.

W. at 2.

P. E. Peterson

BUSINESS ADMINISTRATION

25, 26, 27. **Introductory Business Administration**—An introductory course in the fundamentals of business administration. It is intended that this course shall furnish the student with a background for the study of the more complex problems of business. Not open to freshmen. Lectures and reports. Fall, Winter, and Spring quarters. Three credits each quarter.

M. W. F. at 9.

P. E. Peterson

128. **Business Finance**—This course treats of the structure of the corporate enterprise; providing capital for a new company; expansion of existing companies; recapitalization and reorganization of the corporation. Financial and operating ratios will be discussed. Proper financial plans and methods of marketing securities will also be considered. Prerequisites: Economics 1, 2, 3, or equivalent. Fall quarter. Three credits.

(Not given 1928-29).

Gardner

130. **Problems in Investment**—With concrete cases used as a basis of discussion the varying investment needs of different classes of people will be studied in the first part of the course. In the second

part, attention will be given to different types of investment houses; while in the third, types of investment securities will be analyzed. Fall quarter. Three credits.

T. Th. S. at 10.

131. Corporation Finance—This course is designed for students concentrating in accounting and finance. The financial plans and devices of various types and sizes will be studied, with a view of determining sound means of raising and conserving funds in different phases of the business cycle. Some attention will be given to financial policy in re-organization. Spring quarter. Three credits.

T. Th. S. at 10.

Gardner

132. Business Forecasting—The uncertainty which now attends the outcome of business undertakings constitutes the principal defect of the modern business system. In recent years science has been applied to this field. There is now a great body of material which, if properly understood and used, would be of inestimable value in forecasting business conditions. The aim of this course will be to acquaint students with principles of business barometers. Prerequisites: Economics 1, 2, 3 or 120, 121 and Business Administration 25, 26, 27. Fall quarter. Three credits.

Not given (1928-29).

Wanlass

133, 134, 135. Industrial Management Problems—Selected cases will be taken up for study and report. Problems in industrial location; on choice of site; on buildings and layout; on selection, purchase and arrangement of equipment; on purchasing and stores; on organization; on industrial research; on labor relations; and on problems in managerial control. Prerequisite: Business Administration 125. Winter and Spring quarters. Three credits each quarter.

(Not given 1928-29).

Gardner

136. Business Ethics—After a general survey of the science of ethics special consideration will be given to those principles of professional conduct which are rapidly being introduced into modern business. The work of trade associations and professional organizations will be critically analyzed. Spring quarter. Three credits.

(Not given 1928-29).

Wanlass

140. Principles of Insurance—A general course designed for the business man rather than solely for the specialist. Covers all major forms of property and personal insurance: fire, life, accident, automobile, title and liability policies and fiduciary bonds. Fall quarter. Three credits.

T. Th. S. at 9.

Rutledge

141. **Principles of Real Estate**—A general course designed for the business man rather than solely for the specialist. The technic of real estate appraisal, transfer, legal restrictions, and the forms and papers used in real estate transactions. Winter quarter. Three credits

T. Th. S. at 9.

Rutledge

149. **Business Policy**—This is a co-ordinating course aimed to develop perspective and judgment. Problems will be discussed in such a manner as to show the interrelations of production, distribution, finance, control, legal and ethical aspects. Required of all majors in business administration. Spring quarter. Three credits.

T. Th. S. at 8.

Gardner

MERCHANDISING

50. **Psychology of Personal Selling**—Motives of Buying Action. Individual efficiencies; types of retail and wholesale customers; types of sales personalities and their relation to types of sales positions. Psychology of the individual sale. Fall quarter. Three credits.

T. Th. S. at 8.

Rutledge

51. **Principles of Salesmanship**—Designed to meet the needs of students who want a general knowledge of the principles (psychological and economic) underlying retail, wholesale, and specialty selling. Winter or Spring quarter. Three credits.

Sec. 1, Winter, T. Th. S. at 8.

Rutledge

Sec. 2, Spring, T. Th. S. at 9.

Rutledge

52. **Sales Administration**—The salesman in marketing strategy. Recruiting, selection, development, and equipping of salesman. Direction of sales campaigns. Stimulating sales activities. Spring quarter. Three credits.

T. Th. S. at 8.

Rutledge

151, 152, 153. **Problems in Merchandising**—The aim of this course is to present by means of carefully selected cases the manager's merchandise problems. Methods of marketing merchandise; selection of channels of distribution for consumers and industrial goods; sales organization and control; advertising and sales promotion; stock-turn; price policies. Fall, Winter, and Spring quarters. Three credits each quarter.

(Not given 1928-29).

P. E. Peterson

154, 155. **Principles of Advertising**—Designed to meet the needs of students who want a general appreciation of advertising as a tool in business. Attention will be given to the "advertisability" of products,

the relationship of advertising to given plans of distribution and production, and to finance. The work will include choice of appeals for various classes of goods, choice of media, and the mechanics of good advertising. Principles will be applied to the analysis of magazine and newspaper advertising, and to the preparation of some advertisements. Fall and Winter quarters. Three credits each quarter.

M. W. F. at 9.

Gardner

160, 161, 162. **Retail Store Management Problems**—The aim of this course is to present, by means of carefully selected and co-ordinate cases, the management problems of retail stores. The problems studied include accounting, statistics, organization, merchandise, selling, stock buying, personnel, finance, price policies, and general administrative policies. The case method. Fall, Winter, and Spring quarters. Three credits each quarter.

M. W. F. at 11.

P. E. Peterson

SECRETARIAL WORK

75, 76, 77. **Elementary Stenography**—Thorough drill in the fundamentals of the Gregg system of shorthand. Fall, Winter, and Spring quarters. Three credits each quarter.

M. W. F. at 10.

Fogelberg

78, 79, 80. **Advanced Stenography**—Thorough review of the principles of the Gregg system of shorthand. Special attention paid to the acquirement of speed. Prerequisites: one year stenography and typewriting. Fall, Winter, and Spring quarters. Three credits each quarter.

T. Tb. S. at 9.

Fogelberg

81, 82, 83. **Advanced Stenography**—Thorough review of the principles of the Isaac Pitman system of shorthand. Special attention paid to the acquirement of speed. Prerequisites: one year Pitman stenography and typewriting. Fall, Winter, and Spring quarters. Three credits each quarter.

T. Tb. S. at 8.

Fogelberg

86, 87, 88. **Beginning Course in Typewriting**—Parts of the typewriter and how to use them; mastery of the keyboard, emphasizing position, rhythm, technique, and accuracy. Fall, Winter, and Spring quarters. One credit each quarter.

Students are required to register in two sections, and only two, in order to insure five practice periods a week, with the exceptions of those students who register for Section 5.

A fee of \$1.00 per quarter will be charged.

Sec. 1, M. W. F. at 10. Sec. 2, T. Th. at 9. Sec. c, M. W. F. at 11. Sec. 4, T. Th. at 2. Sec. 5, T. Th. S. at 8.

89, 90, 91. **Second-Year Course in Typewriting**—Letter writing, tabulation, and legal documents. Accuracy and speed emphasized. One credit each quarter.

Students are required to register in two sections, and only two, in order to insure five practice periods a week.

A fee of \$1.00 per quarter will be charged.

Sec. 1, M. W. F. at 9. Sec. 2, T. Th. at 10. Sec. c, M. W. F. at 2. Sec. d, T. Th. at 11.

92, 93, 94. **Advanced Course in Typewriting**—Advanced work in letter writing and tabulation work. Special attention given to form and arrangement. Speed emphasized. Actual practice furnished. One credit each quarter.

Students are required to register in two sections, and only two, in order to insure five practice periods a week, with the exception of students who register in Section 3.

A fee of \$1.00 per quarter will be charged.

Sec. 1, M. W. F. at 8. Sec. 2, T. Th. at 1. Sec. 3, M. W. F. at 3.
Fogelberg

95. **Calculating and Bookkeeping Machines**—A laboratory course giving instruction and practice in the use of Burroughs calculating and posting machines. Especially designed to meet the requirements of those students majoring in Accounting. Fall, Winter or Spring quarters. One credit. Registration limited to ten students.

A fee of \$1.00 per quarter will be charged.

F. 2 to 5.

Fogelberg

175. **Secretarial Science**—This course is intended as a finishing course for students who intend to major in secretarial work. Work will be given in general office practice, filing and indexing, proof reading, handling mail, office appliances, modern methods, duties of the stenographic and allied departments, and secretarial ethics. Prerequisites: two years of typewriting, two years of stenography, Accounting 1, 2, 3 or equivalent, and general Economics. Fall, Winter, and Spring quarters. Three credits each quarter.

A fee of \$1.00 per quarter will be charged.

Lec. T. Th. at 1. Lab. Th., 2 to 5.

Fogelberg

ECONOMICS AND SOCIOLOGY

W. L. WANLASS, F. D. DAINES, JOS. A. GEDDES, WILLIAM PETERSON, Professors; R. M. RUTLEDGE, EDMUND B. FELDMAN, Associate Professors; V. D. GARDNER, REED BAILEY, Assistant Professors; CAROLINE M. HENRDICKS, Instructor.

4. **Economic Resources**—An analysis of resources and industries, with particular emphasis upon their regional distribution in the United States. Relations of social and physical conditions. The historical background. Climate, minerals, agricultural products; transportation facilities, etc. Special attention paid to those forces bringing about changes in our economic structure. (Same as Economic 17 in previous years.) Three credits.

Sec. 1, Fall, M. W. F. at 9. (To be followed by Political Science 4 and Sociology at same hour). Sec. 2, Winter, M. W. F. at 11. (To be followed by Sociology 5 at same hour). Sec. 3, Spring, T. Th. S. at 10. Sec. 4, Winter, M. W. F. at 8. Rutledge

10. **The Natural Economic Resources of Utah**—Includes a study of land and water relationships, water power, timber, and metal and mineral deposits, as they have influenced the industry of the area. Special study will be given to the geographic distribution and economic importance of deposits containing gold, silver, iron, copper, zinc, manganese, clay, gypsum, coal, sulphur, cement, lime, gilsonite, elaterite, oil shale, oil salt, alunite, phosphate, sulphate, etc. Fall quarter. Three credits.

M. W. F. at 11.

William Peterson

11. **Utilization of the Natural Resources of Utah**—The various manufacturing processes involved in turning Utah's natural resources into finished products will be studied. Attention will be given to the size, character, and location of the deposits as they affect manufacturing processes, as well as the markets for the products and the competition with other supplies. Inspection trips to the basic manufacturing industries of the state will be made. Winter quarter. Three credits.

M. W. F. at 11.

Feldman

On leave of absence: R. M. Rutledge, acting head of work in Economics; Jos. A. Geddes, acting head of work in Sociology.

12. **Principles of Human Geography**—This course is planned to set forth the great principles of geography, and the effects it has had and is having on man and his endeavors. Physiography, a study of the earth's features, such as mountain, lakes, rivers, swamps, coast-

lines, etc.; climate, with its rainfall and temperatures, winds and general air circulation; minerals, soil, plant and animal life, and their effects on man's economic, social, political, and cultural development. Spring quarter. Three credits.

M. W. F. at 11

Bailey

30. **Economic Development of the United States**—This course indicates the dominance of economic forces in history. A critical study of the evolution and progress of American agriculture, industry, commerce, transportation, banking, labor organizations, etc., from the colonial period to the present time, ending with a survey of existing institutions. Fall quarter. Three credits.

M. W. F. at 10

Rutledge

50, 51, 52. **General Economics**—After a brief survey of man's economical development, a careful study is made of those fundamental laws and principles that govern our modern economic life. Some attention is also given to present economic problems preparatory to a more intensive study in the advanced courses in this department. Fall, Winter, and Spring quarter. Three credits each quarter.

Sec. 1, T. Th. S. at 11

Rutledge

Sec. 2, M. W. F. at 8.

Daines

Sec. 3, M. W. F. at 11.

Hendricks

Sec. 4, T. Th. S. at 10.

Fuhrman

Sec. 5, Winter, T. Th. S. at 9.

Fuhrman

110. **Commerce and Commercial Policies**—Attention given to the fundamentals of trade and commerce, to the methods of increasing, limiting and directing American trade, and an analysis of sound commercial policies. Prerequisites: Economics 1, 2, 3. Three credits

(Not given 1928-29)

115, 116. **Economic Resources of the World**—Economic, social, industrial, mineral, and agricultural resources in relation to commerce; climate, population, etc., in their world relationships. Typical industries will be followed, from the production of their raw materials to the marketing of their finished products. Winter and Spring quarters. Three credits each quarter.

M. W. F. at 10

Rutledge

125. **Labor Problems**—A study of the labor situation from the social point of view. Special attention is given to labor problems and to methods of securing industrial peace. Prerequisites: Economics 1, 2, 3. Three credits.

(Not given 1928-29)

Geddes

131. **Statistical Methods**—This course deals with statistical methods rather than the mathematics of statistics. Special attention will be given to those forms and methods of procedure that are used in the social science and agriculture. Actual statistical studies will be made by each student. Prerequisites: Economics 1, 2, 3. Three credits.

(Not given 1928-29.)

Wanlass

135. **Transportation Economics**—Emphasis is placed chiefly on railroad transportation in the United States. Some attention will be given to highway transportation. The underlying economic principles will receive more attention than the practical phases of transportation. Special attention will be given to those problems that are peculiar to the intermountain section. Prerequisites: Economics 1, 2, 3. Three credits.

(Not given 1928-29.)

Wanlass

155. **Principles of Taxation**—After a brief survey of the fundamental economic principles of public finance, a critical examination of our federal, state and local tax and the various business taxes will be studied. Special attention will be given to tax problems in Utah. Prerequisites: Economics 1, 2, 3. Three credits.

(Not given 1928-29)

165. **Money and Credit**—The nature, development and uses of money and credit. Special attention given to bimetallism, the gold standard, the money market and the relation of money and credits prices. Prerequisites: Economics 1, 2, 3. Fall quarter. Three credits.

T. Th. S. at 11

Gardner

167. **Banking**—The functions and operation of such financial institutions as commercial banks, saving banks, and trust companies will be studied critically. This will be followed by an historical treatment of banking in the United States and a survey of European and Canadian Banking in comparison with our Federal Reserve System. Varied readings and reports on pertinent problems will characterize the course. Prerequisites: Economics 1, 2, 3. Winter quarter. Three credits.

T. Th. S. at 11

Gardner

180, 181, 182. **Current Economic Problems**—(Economics Seminar.) A reading and research course designed for junior, senior, and graduate students who are majoring in economics and related subjects. Special reports on current economics and related subjects. Special reports on current economic problems and literature will be made. Required

of students graduating in economics. Fall, Winter, and Spring quarters. One credit each quarter. Two years credit allowed.

Tuesday, 2 to 3

The Department

195. **History of Economic Doctrines**—A critical study of the origin and development of the economic theories of the leading thinkers in the leading nations of the world. Spring quarter. Three credits.

Alternates with 206.

(Not given 1928-29.)

GRADUATE COURSES

200. **Research in Economics**—Special investigations in problems of economics may be carried on by senior and graduate students. Credit will be granted according to work done.

206. **Advanced Economic Theory**—A critical analysis of present day economic theories and doctrines. The purpose of the course is to enable students to get a better grounding in economics and to correlate the work of the various courses in economics. Only senior and graduate students who have had considerable work in economics will be admitted. Three credits.

(Not given 1928-29)

SOCIOLOGY

Sociology 5, 70, and 71 are prerequisite for all upper division courses in Sociology, except Educational Sociology (100) and Rural Sociology (101). For these latter subjects Sociology 5 is prerequisite.

5. **Social Relations**—Given in conjunction with Political Science 4 and Economics 4 as an orientation course for freshmen. The principal purpose is to obtain a concrete view of society in everyday interaction. Person-to-person relationships are stressed. One section each quarter. Three credits.

Sec. 1, Fall, T. Th. S. at 10.

Sec. 2, Winter, M. W. F. at 9.

Sec. 3, Spring, M. W. F. at 11.

Mrs. Hendricks

40, 41. **Social Hygiene**—A study of courtship and marriage, of the home and family; their biological background, including the urges and the psychology of their direction towards moral, christian, social relationships as reflected in the conventions of society and in the

persistence of group pressure in their enforcement. Fall, Winter, and Spring quarters. Two credits.

Sec. 1, T. Th. at 10. Fall and Winter quarters.

Henry Peterson

Sec. 2, W. F. at 9. Fall and Winter quarters.

Sec. 3, Fall and Winter, T. Th. at 9.

Mrs. Hendricks

Sec. 4, T. Th. at 1. Fall and Spring quarters. Miss Dancey

Sec. 5, M. W. at 10. Winter and Spring quarters.

Miss Kewley

Sec. 6, W. F. at 11. Winter and Spring quarters.

B. L. Richards

61. **Women and Culture**—Open to women students only. A study is made of women's contribution to culture. Traditional forms of individual refinement are observed, with the purpose of becoming familiar with inherently harmonious, balanced-types of personality. The richly varied, yet unified life is emphasized. Fall quarter. Two credits.

M. W. T. at 9.

Mrs. Hendricks

70, 71. **Principles of Sociology**—The foundation of sociology are studied in order that a plan of social progress may be formulated. The problems of social origins, social structures, public opinion, social activities, social organization, and social evolution are carefully considered. Prerequisites: Sociology 5. Sociology 70 is prerequisite for 71. Two sections, Fall and Winter quarters, or Winter and Spring quarters. Three credits each quarter.

Fall and Winter, T. Th. S. at 9; Winter and Spring, T. Th. S. at 10.

Mrs. Hendricks

100. **Applied Educational Sociology**—By utilizing a series of practical problems it is aimed to prepare the public school teacher for meeting the problems of school and community. Fall quarter. Three credits.

M. W. F. at 9.

Geddes

101. **Applied Rural Sociology**—A study is made of the problems of rural life as a basis for constructive action in developing, and maintaining an efficient and wholesome civilization in the country. Winter quarter. Three credits.

T. Th. S. at

Geddes

140. **Social Psychology**—The influence of the "groups" in the formation of the "norm" of life and in exerting pressure on the personality are stressed. Three credits.

(Not given 1928-29.)

Geddes

141. **Urban Sociology**—This course deals with city life. The ecological distribution of the population, the relation between groups, the problems of class conflict, the forms of social control, the improvements in impersonal relationships are basic considerations.

(Not given 1928-29.)

Geddes

161. **Modern Social Problems**—A selection of a series of social problems is made. These problems are studied with the two-fold object of ascertaining the present situation and of arriving at common-sense solutions. Spring quarter. Three credits.

M. W. F. at 9.

Geddes

170. **Juvenile Delinquency**—A study of juvenile offenders. The causes of delinquency are considered with the purpose of arriving at intelligent remedies. Various methods of home, social, and institutional treatment are studied: parental cooperation, personal supervision allied with probation and parole, institutional treatment, etc. Three credits. Fall quarter.

M. W. F. at 10.

Mrs. Hendricks

171. **Social Problems of the Family**—In this course the relations of the family with outside groups, agencies, and institutions are stressed. Attention is also paid to the inter-relation between the different members of the family. Home life is treated as a changing, developing, basic organization which should be in constant reciprocal relation with outside agencies. Three credits. Winter quarter.

T. Th. S. at 10.

Mrs. Hendricks

172. **Poverty and Dependency**—A study is made of the extent of poverty, its causes, remedies now in use and others which give promise. Social methods of caring for dependents are examined. Emphasis is placed on programs which look to prevention and to minimization as well as to adequate care. Three credits. Spring quarter.

(Not given 1928-29.)

Mrs. Hendricks

185. **Community Organization and Leadership**—A course dealing with the efforts of communities to organize the various fields which have to do with the chief interests of life. The coordination of agencies, the opportunities for leadership, the effects of disorganization are studied. Spring quarter. Three credits.

M. W. F. at 8.

Geddes

190, 191, 192. Seminar in Sociology—Fall Winter, and Spring quarters.

Monday, 3 to 4.

Department

GRADUATE COURSES

201. Research in Sociology—The pupose of this course is to direct mature students in original investigations in social problems.

Credit hours to be arranged.

Geddes

202, 203. The Study of Society—An advanced course in Sociological theory. A study is made of human nature, of isolation, of social forces, of competition, of conflict, of accommodation, of assimilation, of social control and of progress. Sociology is studied both as a classified body of facts and as a method of investigation. Fall and Winter quarters. Three credits.

M. W. F. 9.

Geddes

POLITICAL SCIENCE

F. D. DAINES, ASA BULLEN, Professors.

4. Citizenship—The aim of the course is to make a study of the social environment, from the point of view of discovering the points of contact between the individual and the problems of human relationship. To be followed by Sociology 5, and Economics 4. Three credits.

Sec. 1, Fall, M. W. F. at 11.

Sec. 2, Winter, T. Th. S. at 10.

Sec. 3, Spring, M. W. F. at 9.

Daines

5. State Government—The relationship of the States and the Nation in our federal form of government. The government of Utah will receive special attention. Fall quarter. Three credits.

(Not given 1928-29)

8. Current International Problems—The aim of this course is to develop the ability to use understandingly newspapers and other sources of information on current world events. The world problems in which the United States is especially interested are considered. Spring quarter. Three credits.

(Not given 1928-29)

11, 12, 13. Commercial Law—The law of contracts, agency, negotiable paper, banks and banking, guaranty and suretyship. A comprehensive study of the principles of law underlying each of the above

subjects. Open to all students of Sophomore standing or above. Fall, Winter, and Spring quarters. Three credits each quarter.

M. W. F. at 8.

Bullen

103. **International Relations**—Psychological, economic, racial and other obstacles to international co-operation, as exemplified in recent events. The Treaty of Versailles; the League of Nations; the present day world politics. Prerequisites: one year of Social Science. Spring quarter. Three credits.

M. W. F. at 10.

Daines

104, 105. **Commercial Law**—The law of bailments, sales of personal property, partnerships, corporations and bankruptcy. Prerequisites: Political Science 11, 12, 13. Fall and Winter quarters. Three credits each quarter.

(Not given 1928-29)

106, 107, 108. **Commercial Law**—The law of property, real and personal, including deeds, conveyancing and abstracts of title, mortgages, will and estates. The law of insurance and debtor and creditor. Prerequisites: Political Science 11, 12, 13. Fall, Winter and Spring quarters. Three credits each quarter.

T. Tb. S. at 8.

Bullen

109. **The Law in Business Problems**—A study of the legal aspects of business. Prerequisites: Political Science 11, 12, 13 and Uolitical Science 104, 105, or 106, 107, 108. Three credits.

(Not given 1928-29.)

112. **State Administration**—The organization and activities of state agencies of administration. A comparison of administrative organization of Utah with that of other states in the Union. Three credits.

(Not given 1928-29.)

113, 114. **Municipal Government and Administration**—The government and problems of cities, with special reference to American experience. Organization, Personnel, and practices which have developed in the performance of the various business functions of the city government. Prerequisite: one year of Social Science. Fall and Winter quarters. Three credits each quarter.

T. Tb. S. at 8.

Daines

116. **Theory of State**—The nature of the State, its organization and activities, and its relation to individuals and to other states. Prerequisites: one year of Social Science. Spring quarter. Three credits.

T. Tb. S. at 8.

Daines

117. American Political Ideas—Fundamental theories underlying American Political institutions and governmental policies. Prerequisites: one year of Social Science. Three credits.

(Not given 1928-29.)

118. Political Parties—Their function in government; their organization and methods. Prerequisites: one year of Social Science. Fall quarter. Three credits.

T. Th. S. at 9.

Daines

121, 122, 123. Introduction to International Law—Rules regulating international intercourse, considered from a non-technical point of view. Emphasis upon America's contribution and stand on disputed questions. Prerequisite: one year of Social Science. Three credits each quarter.

(Not given 1928-29.)

124, 125. Public Opinion—The aim of the course is to investigate the psychological and other factors involved in the determination of opinion of public questions. The reliability of sources of information and the subjective influences that must be taken into consideration are discussed. The use of various methods of spreading propaganda is considered. Prerequisite: one year of Social Science. Fall and Winter quarters. Three credits each quarter.

M. W. F. at 10.

Daines

127, 128. Constitutional Law—The Constitution of the United States, especially as determined by judicial interpretation. Winter and Spring quarters. Three credits each quarter.

T. Th. S. at 9.

Daines

ENGINEERING

*RAY B. WEST, O. W. ISRAELSEN, Professors; AARON NEWAY, A. H. POWELL, E. B. FELDMAN, Associate Professors; A. J. HANSEN, S. R. EGBERT, GEORGE D. CLYDE, *N. E. EDLEFSON, D. A. SWENDSEN, SIDNEY STOCK, Assistant Professors.

MILITARY SCIENCE AND TACTICS

Martin J. O'Brien, Major, C. A. C., Professor; John L. Hanley, First Lieutenant, C. A. C., Assistant Professor; Eugene J. Callahan, First Sergeant, D. E. M. L., Instructor.

(Courses numbered below 100 designate Junior College courses, Courses numbered from 100 to 200 are Senior College, and those numbered above are Graduate courses.)

(Student who elect Civil Engineering will be required to present a thesis on some special problem to be assigned by the department in which they major. See C. E. 198-199.)

APPLIED MECHANICS AND DESIGN

CE 1. Materials of Engineering and Plain Concrete—The chemistry of steel, the alloys, etc., and their special use in machine parts; strength, composition and proper use of wood, plaster, glass, glue, paint, brick, etc. Cement, sand and gravel. Mechanical analysis curves, water-cement ratio, cement and concrete testing. Spring quarter. Three credits.

M. W. F. at 11.

Feldman

CE 2. Design of Structural Details—The design and detail of simple ties and struts; strength and holding power of nails, screws, bolts and rivets. Some simple structures in wood and steel will be completely detailed. Fall quarter. Three credits.

T. Th. S. at 10.

Feldman

CE 101, 102. Engineering Mechanics—Statics and kinetics, resultant of forces, equilibrium of force systems, friction; moments and moments of inertia; force, mass, and acceleration; work and energy; impulse and momentum. Fall and Winter quarters. Five credits each quarter.

Lec. daily except Sat. at 8.

Feldman

CE 103. Applied Mechanics and Strength of Materials—The simple machines, reactions, moments, and shears; the design of beams and columns. Spring quarter. Five credits.

Lec. daily except Sat. at 8.

Feldman

*On leave of absence.

CE 106. Reinforced Concrete—The fundamental principles of reinforced concrete design. Slabs, beams, girders, and columns. Winter quarter. Five credits.

Lec. M. W. F. at 11, Lab. T. Th. or M. W., 2 to 5. Feldman

CE 107. Masonry Construction—A continuation of course 106, with special application of foundations, bridges, retaining walls, drains, and irrigation structures. Spring quarter. Three credits.

Lab. T. F., 1 to 5. Feldman

CE 110. Graphic Statics—The graphical analysis of stresses in framed structures. Fall quarter. Three credits.

Lec. T. Th. S. at 9. Feldman

CE 111, 112. Bridge Analysis—The algebraic and graphical analysis of stress in the modern types of bridge trusses. Special attention is given to influence lines and equivalent uniform loads. Winter and Spring quarters. Three credits.

Lec. T. Th. S. at 9. Feldman

CE 113, 114, 115. Bridge Design—The design of the modern types of bridges and culverts in wood, steel and concrete. Prerequisite: CE 103 and CE 112. Fall, Winter and Spring quarters. Three credits each quarter.

Lec. M. W. F. at 9. Feldman

CE 201. Indeterminate Structures—The elastic theory; method of least work; moment area method, and method of elastic weights. Three credits.

Hours to be arranged. Feldman

CE 202. Indeterminate Structures—The application of CE 201 to the solution of problems in steel and concrete. Box culverts, continuous span concrete slab bridges, swing bridges, and other problems. Three credits.

Hours to be arranged. Feldman

HIGHWAYS

CE 21. Highway Construction—Location, grade, drainage, resistance to traction, road materials, construction methods and costs. Fall quarter. Five credits.

T. Th. S. at 11. West

CE 22. Inspection of Highway Construction—A study of the road inspector's duties on all types of roads, pavements, and bridges. Winter quarter. Three credits.

T. Th. S. at 9. West

CE 121. **Highway Administration and Design**—State, County, and City highway departments, highway and local improvement laws, traffic regulations, taxation, and methods of financing country roads and city pavements. Economic design and reconstruction. Winter quarter. Three credits.

T. Th. S. at 8.

West

CE 122, 123, 124. **Seminar**—One credit each quarter.

Fall quarter, M., 2 to 5; Winter quarter, F., 2 to 5; Spring quarter, T., 2 to 5.

West

CE 125. **Transportation**—Development of highway transportation. Comparison of methods of transport of passengers and commodities by highway, railway, and waterway. Organized and operation Rural Motor express lines, freight lines, and bus lines, etc. Spring quarter. Three credits.

T. Th. S. at 8.

West

IRRIGATION AND DRAINAGE

CE 141, 142. **Hydraulics**—Laws of liquids in motion and at rest; flow in natural and artificial channels and elementary principles of water power development. Fall and Winter quarters. Three credits.

Lec. M. W. at 9, Lab. F., 2 to 5.

Clyde

CE 143. **Hydrology**—The occurrence, utilization and control of water. Rainfall, stream flow and runoff, measurements and records, reservoirs, and pumping for irrigation. Open especially to prepared seniors. Spring quarter. Three credits.

Clyde

CE 144. **Management and Operation of Irrigation Systems**—Delivery of water to irrigators, annual water charges, operation costs. Prerequisites: Design of Irrigation Systems, CE 146, 147. Winter quarter. Three credits.

Clyde

CE 145. **Design of Drainage Systems**—Preliminary survey, location of drains, flows in open channels, and construction of drainage systems, with special reference to drainage of irrigated lands. Prerequisites: CE 141 and 142. Spring quarter. Five credits.

Israelsen

CE 146, 147. **Design of Irrigation Systems**—Sources of water supply, diversion works, canal alignment and cross section, flumes, drops, and spillways. Prerequisites: CE 141 and 142, and CE 101, 102. Fall and Winter quarters. Five credits each quarter.

Lec. M. W. F. at 10, Lab. M.W., 2 to 5.

Israelsen

CE 148. **Hydroelectric Design**—Principles of design of hydraulic machinery used in the generation of power. Dams, penstocks, surge tanks, pipe lines, and plants layouts. Five credits. Spring quarter.
(Not given 1928-29.) *Israelsen*

CE 149, 150. **Irrigation Institutions**—Water right doctrines, laws governing the adjudication and acquirement of water rights, and the distribution of water; organization of irrigation enterprises. Prerequisite or parallel: a general course in Economics or Sociology. Winter and Spring quarter. Three credits each quarter.

M. W.F. at 11.

Clyde

CE 241, 242, 243. **Research in Irrigation and Drainage**—Specially prepared undergraduates or graduate students may elect a problem in irrigation or drainage for investigation, subject to the approval of the professor in charge. Such investigations may be conducted at the college or elsewhere. The studies may be used as a basis for a thesis, to meet in part the requirements for an advanced degree. Students may register at the beginning of any quarter.

Credits and hours to be arranged.

Israelsen or Clyde

MECHANICAL DRAWING

Drawing rooms are open from 8:00 a. m. to 5:00 p. m., daily. Supervised instruction given from 2:00 to 5:00 on Tuesdays, Thursdays, and Fridays, during Fall and Spring quarters, and from 2:00 to 5:00 daily during Winter quarter. A student may register for any number of credits. Three hours per week are required for one credit. All classes carried out simultaneously in Room 307, Engineering Building. The following courses are offered each quarter.

All courses taught by Professor Edmund Feldman

CE 61. **Engineering Drawing**—The use and care of instruments, applied geometry and orthographic projection. Four credits.

CE 62. **Engineering Drawing**—Pictorial presentation, isometric, oblique and cabinet projections. Developing surfaces and intersections. Four credits.

CE 63. **Descriptive Geometry**—The point, line, plane and simple solids are studied. Four credits.

T. Th. F., 2 to 5.

CE 64. **Highway Structures**—Structural problems such as bridges, dams, retaining walls, etc., in orthographic projection. Two credits.

CE 55. **Drawing for Builders and Mechanics**—The use and care of instruments and orthographic projection. Two credits.

CE 66. **Drawing for Mechanics**—Drawing of shop exercises in orthographic projection and free hand sketching of machine parts. Two credits.

CE 67. **Drawing and Builders**—Building details such as walls, windows, doors, etc. Two credits.

CE 68. **Machine Drafting**—Drawing of fastening such as bolts, screws, etc. Two credits.

CE 69. **Machine Drafting**—Detail drawings of machine parts. Three credits.

CE 70. **Machine Drafting**—Assembly and detail drawing of machine and machine parts. Three credits.

CE 71. **Map and Topographical Drawing**—Surveys, symbols, topographical maps, etc. Three credits.

CE 72. **Industrial Drawing, Lettering**—The use and care of instruments and the elements of orthographic projection. The graphical presentation of business data, plant layout, routing, flow sheets, etc. Inspection trips will be made to typical industries. Winter quarter. Three credits.

M. W. F., 2 to 5.

CE 73. **Linear Perspective**—Shades and Shadows. Of interest to the advanced student of rural architecture and mechanical drawing. Any quarter. Three credits.

CE 74. **Irrigation Drafting**—Drafting of irrigation structures including pumping plants, etc., in orthographic projection. Any quarter. Three credits.

CE 75. **Architectural Drawing**—The complete working drawing for a small farm house including plans, elevations, specifications, and necessary details. Five credits. Any quarter.

CE 76. **Advanced Topographical Drawing**—Complete topographical maps, contours, lettering, coloring, etc. Three hours for one credit. Any quarter.

SURVEYING

CE 81. **Plane Surveying**—Use of tape, transit, level, compass, etc., in field problems and traverses. Differential and profile leveling, plotting, mapping, and care of instruments used by engineers. Fall quarter. Three credits.

Lecture hour to be arranged. Lab. T. Th. or M. W., 2 to 5.

Feldman

CE 82. **Plane Surveying**—Topographical surveying, hydrographic surveying and some rural and city surveying. Prerequisite, Trigonometry. Spring quarter. Three credits.

Lecture hour to be arranged. Lab. M. W. or T. Th., 2 to 5.

CE 83. **Mapping**—Practice in the mapping of the various kinds of surveys that may be encountered by the engineer. Winter quarter Three credits.

Lab. M. T. Th., 2 to 5.

Feldman

CE 181. **Advanced Surveying**—Instructions and practice in the application of surveying methods used in the layout and construction of canals, roads, railroads, and other engineering works. Prerequisite: CE 81 and 82. Spring quarter. Five credits.

Lec. M. W. F. at 9, Lab. M. W., 2 to 5.

West

GENERAL

CE 190. **Contracts and Specifications**—The form and essential consideration in drawing up engineering contracts and specifications. Fall quarter. Three credits.

Lec. T. Th. S. at 9.

West

CE 191. **Railroads**—Economics of Railroad location, and Railroad construction. Spring quarter. Three credits.

West

CE 192. **Water Supply**—Surface and underground waters, storage, waterworks, pipe lines pumping etc. Fall quarter. Three credits.

CE 193. **Sewage Purification and Disposal**—Spring quarter. Three credits.

West or Clyde

CE 194. **Sewerage Systems**—Flows in sewers. Design and construction of sewerage works. Fall quarter. Three credits.

West or Clyde

CE 196. **Heat and Power Machinery**—Steam generation; fuels and combustion; construction and operation of boilers; elementary thermo-dynamics. Types, details and tests of steam engines and gas engines. Measurement of power. Three credits.

Edlefson

CE 197. **Electric Machinery**—Principles of continuous and alternating currents; generators and motors; transmission and distribution; air compressors. Three credits.

Edlefson

CE 198, 199. **Undergraduate Thesis**—Senior year, one credit each quarter. Fall and Winter quarters.

Hours to be arranged.

AGRICULTURAL ENGINEERING

AE 1. **Farm Surveying**—For students of agricultural. Practice in the handling of surveying instruments that may be purchased by the average farmer. Running of ditch lines, grading and leveling of land, retracting of section lines, and laying out drains and buildings. Spring quarter. Three credits.

Lecture hour to be arranged. Lab. T. Th. or M. W., 2 to 5.

Feldman

AE 2. **Agricultural Drawing**—The use and care of instruments and orthographic projection. Two credits.

AE 3. **Agricultural Drawing**—Farm structures in orthographic projection. Two credits. Prerequisite: CE 61.

AE 4. **Agricultural Mapping**—Maps and topographical drawing of farm problems. Two credits. Prerequisites: CE 61 and 62.

AE 5. **Landscape Drawing**—For students of Horticulture. Two credits.

AE 6. **Farm Structures**—The arrangement, design and construction of barns, stables, poultry houses, silos and other farm structures. Prerequisites, CE 61 or 62. Winter quarter. Three credits.

Lec. M. W. F. at 11.

West and Feldman

AE 7. **Poultry House Design**—The plans and layout of the various types of structures used in Poultry Husbandry, complete layout of poultry ranch. Prerequisites, A E 1 or CE 61, and 62. Three credits. Any quarter.

T. Th. S., 9 to 12.

Feldman

AE 8. **Barn and Stable Design**—Various types of barns and stables, layouts and construction. Prerequisites, AE 6 or AE 2 and 3. Any quarter. Three credits.

T. Th. S., 9 to 12.

Feldman

AE 9. Concrete Construction for Agricultural Purposes—Various mixtures of cement and their uses; the use of concrete in making barns, water troughs, posts, etc. Spring quarter. Three credits.

Hours to be arranged.

AE 10. Planning of Farm Structures and Homes—The making of plans for farm buildings, including complete specifications, cost of materials and construction. Winter quarter.

Hours to be arranged.

West

AE 11. House Building and Contracting—Various methods of construction, the frame, two brick, three brick, stucco, single cement, block and stuccoed hollow tile; cost and economy of each; interior finishing. Winter quarter. Five credits.

AE 12. Irrigation and Drainage Practice—Water measurements, effect of soil and plants on time and frequency of irrigation, duty of water, design of farm ditches and preparation for farm drainage. These courses may be used as a major or minor in the Department of Agronomy. Summer quarter designed especially for high school instructors. Spring quarter. Three credits.

M. W. at 11. Lab. 2 to 5, F.

Israelsen

AE 201. Research in Irrigation and Drainage—Specially prepared undergraduate, or graduate students in civil or agricultural engineering may elect a problem in irrigation or drainage for investigation, subject to the approval of the professor in charge. Such investigations may be conducted at the college or elsewhere. The studies may be used as a basis for a thesis to meet in part the requirements for an advanced degree. Any quarter.

Credits and hours to be arranged.

Israelsen and Clyde

AE 13. Farm Motors—This course will cover the care, adjustment and lubrication of the automobile, tractor, the stationary gas engine, and the home lighting and water systems, the care of this equipment when not in use, and precautions to be taken when preparing it for operation. It will also include bearings and bearing adjustment, babiting and fitting of babbited bearings, soldering and fundamental principles of power transmission by the use of belting and pulleys, care of belts and speed calculations. Fall quarter. Three credits.

T.Th., 2 to 5.

Powell

AE 14. Farm Shop Repair Work—(See Wood Work Unit C) This course is especially arranged for agricultural students. The application of forging operations to repairs on the farm. The repairing of the following farm implements will be included in the course; the plow, wagon, barrow, hay rake, mowing machine, binder, header, etc.,

making and tempering punches and cold chisel; sharpening and tempering harrow teeth, picks, etc. Fall and Spring quarters. Two credits.

T. Th., 2 to 5.

Egbert

AE 15. **Farm Machinery**—A complete assembling, adjusting, care and repair of the various types of farm implements and farm machinery. Spring quarter. Three credits.

T. Th., 2 to 5.

Powell

AE 16. **Gasoline Tractor Operation and Repairing**—The overhauling of the tractor including babbiting of bearings, fitting of new parts and operation of tractor. Fall quarter. Repeated Spring quarter. Four credits.

Fall, M. W. F., 2 to 5. Spring, T. Th., 8 to 11.

Powell

AE 102. **Tractor Repair and Operation**—An advanced course for men wishing to specialize in tractor service work. It includes field work, operating problems, trouble shooting, and repairs. Fall quarter. Four credits.

T. Th. S., 8 to 11.

Powell

AE 103. **Farm Machinery Operation and Repair**—This course given in the summer quarter for High School teachers, who are preparing to teach this subject.

Daily, hours to be arranged.

Powell

MECHANIC ARTS

Auto Mechanics

MA 1. **Automobile Design and Construction**—A course for beginners. This course is a thorough study of the design and construction and function of the various units and parts of the automobile, with special reference to gas engine principles and the mechanism involved. This course or its equivalent must be taken by all students who wish to specialize in any branch of automobile work. Fall quarter. Four credits.

M. W. F., 8 to 11.

Powell

MA 2. **Automotive Design and Construction**—A continuation of Auto Mechanics 1. It also deals with the dismounting and the assembling of the automobile. Winter quarter. Four credits.

M. W. F., 8 to 11

Powell

MA 3. **Automobile Care and Maintenance (Special)**—For winter students only. This course is designed especially for winter course or short term students who wish to learn enough about the care and

operation of the automobile, to enable them to make their own minor repairs and adjustments. Oils, lubrication, valve grinding, bearing cutting, fitting of piston rings, etc., will be taken up, along with many other problems that the average owner has to be familiar with if he is going to do his own repairing and care for his car properly. Winter quarter. Four credits.

T. Tb. S., 8 to 11.

Powell

Mechanic Arts 4, 101 and 102, are advanced courses. They must be taken by all students who intend to specialize in garage management, garage practice, teaching, or repairing. The course will cover the detailed theory, operation, advantages in design and construction of all modern makes of cars, and automobile equipment and appliances. Methods of systematic location of trouble, dismantling, repairing, and assembling. Modern shop methods, tools and equipment. Prerequisites: Mechanical Arts 1 and 2, or their equivalent.

MA 4. Automobile Repair—Spring quarter. Four credits.

M. W. F., 8 to 11.

Powell

MA 5. Automobile Care, Adjustment and Lubrication—For automobile owners and anyone desiring a course that will enable them to do their own service work on automobiles, to enable them to operate the car in the most efficient way and to reduce to a minimum the cost of operation. It will include all phases of lubrication, carburization, brake adjustment, tappet adjustment and correct general principles of operation. Fall, Winter and Spring quarters. Two credits.

Fall and Spring, M. W. F., 11 to 12; Winter, T. Tb. S., 8 to 9.

Powell

MA 101. Automobile Repair—Prerequisite, Auto Mechanic 4. Winter quarter. Four credits.

M. W. F., 2 to 5.

Powell

MA 102. Automobile Repair—A continuation of MA 101. Includes shop methods and equipment. Prerequisite: MA 101. Spring quarter. Four credits.

M. W. F., 2 to 5.

Powell

MA 103. Gasoline Engine Carburation and Carburetor—Internal combustion, engine fuels, and a thorough treatise on the principles of carburetion, the construction on carburetors and their relation to successful gas engine operation. Practice in repairing, overhauling and adjusting of carburetors, thorough study of the modern devices and improvements on new models will be taken up. Prerequisites: MA 4 and MA 111. Fall quarter. Three credits.

T. Tb., 2 to 5.

Stock

IGNITION, STARTING AND LIGHTING

All courses taught by Sidney Stock, Assistant Professor.

MA 11. Elements of Electricity and Magnetism—A complete study of magnets, magnetism, and the elementary principles of electricity. It includes a study of the units of electricity, their governing laws, power measurements, induction, electro magnets, sizes of wires and their carrying capacity, dry cells and their application to the automotive electrical industry. Required of all students specializing in Ignition, Starting, and Lighting. Fall quarter. Four credits.

T. Tb. S., 8 to 11.

MA 12. Ignition, Starting and Lighting (Special)—For winter quarter students only. This course is designed especially for short term students who wish to learn enough about the electrical apparatus of the automobile to enable them to care for and locate electrical troubles and make minor repairs. It will include a study of spark plugs, high and low tension coils, ignition timing, high and low tension magnetos, battery ignition systems, care and testing of batteries and adjusting the charging rate of generators. Winter quarter. Four credits.

M. W. F., 8 to 11.

MA 13. Storage Batteries—The aim of this course is to furnish students the experience necessary to enable them to care for and handle a battery service station and repair shop. A thorough study of the different types and makes of batteries will be made. Practice will be given in testing, charging, discharging, disassembling and rebuilding and in the diagnosis of battery trouble. Prerequisite, MA 11. Four credits.

Sec. 1, Fall, M. W. F., 2 to 5.

Sec. 2, Winter, T. Tb. S., 8 to 11.

MA 14. High and Low Tension Magnetos—A complete study of all low and high tension magnetos as to design, construction and operation. Prerequisite, MA 11. Spring quarter. Four credits.

T. Tb. S., 8 to 11.

MA 15. Special Course in Ignition, Starting and Lighting for Car Owners—The course will cover the care, operation, adjustment, and methods of locating all electrical troubles on the storage battery, starting motors, generators, ignition units, lighting, and other electrical equipment used on the modern automobile. It should be especially interesting and valuable for anyone who drives an automobile. Open

to both men and women. Two lectures and one laboratory or demonstration period. The course will be repeated each quarter. Three credits.

Fall and Spring, T. Tb. S. at 11; Winter, M. W. F., 8 to 9.

MA 111. Starting, Lighting and Ignition Systems—A complete study of the modern starting, lighting and ignition systems, their operation, design, and construction; and direct current motor and generator; voltage and current regulation by vibration relays; third brush; battery cutouts; reading and drawing of wiring diagrams and electrical devices. Ample practice is given in disassembling an assembling, also trouble shooting. Testing and adjusting of the various units is taken up, to enable the students to handle such work in the repair shop. Prerequisites: MA 11, 13, and 14. Fall quarter. Four credits.

M. W. F., 8 to 11.

MA 112. Motor and Generator Repair and Armature Winding—A thorough study of direct current starting motors and generators; their construction, operation and repair including armature field and communicator testing; a systematic location and repair of all troubles encountered in the modern starting motors and generators; armature winding, as far as is practical for modern up-to-date garages and service stations. Prerequisites: Ignition 111. Winter quarter. Four credits.

M. W. F., 2 to 5.

MA 113. Ignition Trouble Work—The systematic location of trouble, service work, adjustable, and minor repairs. Spring quarter. Four credits.

M. W. F., 8 to 11.

MA 114. Storage Battery Repair and Shop Management—This course should prepare a student to handle a storage battery service station and repair shop. Considerable practice in the diagnosis of storage battery troubles, rebuilding of batteries, servicing of new batteries and winter storage methods. It will also include methods and commercial management cost and installation of battery shop equipment. Spring quarter. Four credits.

T. Tb., 1 to 5.

MA 115. Automotive Electrical Equipment and Shop Management—This course should prepare a student to handle an Automotive Electrical service station and repair shop. Considerable practice in the wiring, trouble shooting and repair of all kinds of electrical equipment. Shop kinks and the development of skill, accuracy and speed to prepare the student better to compete with those already in the

commercial field, will be given. Business methods and commercial management, also costs and proper installation of shop equipment. Prerequisites: Starting, Lighting and Ignition 112. Spring quarter. Three credits.

M. W. F., 2 to 5.

OXY-ACETYLENE, ELECTRIC ARC AND RESISTANCE WELDING

MA 21. Oxy-actelylene and Electric Welding—The oxy-actelylene welding process, equipment and gases, properties of the various metals, etc. Practice in the welding of cast iron, steel, aluminum, and other metals is given, also the proper methods of pre-heating and the preparation of cylinder clocks and other castings that are to be welded in the latter part of the course. A special fee of \$25.00 is required for all students taking this course. Winter quarter. Three credits.

T. Th., 2 to 5.

Powell

MA 22. A continuation of course 21.

Time and credit to be arranged.

Powell

FORGING AND GENERAL BLACKSMITHING

All coursese taught by S. R. Egbert, Assistant Professor.

An average of one-third of the time in all courses in forging is spent in demonstrating and lecturing. All courses are given in the forge rooms, Mechanic Arts building.

MA 31, 32, 33. Forge Practice—Forging, welding, tempering, tool making and other operations essential to forge work. Open to Vocational Students. Fall, Winter, and Spring quarters. Section 1, four credits. Section 3, four credits. Section 4, three credits.

Sec. 1, M. W. F., 8 to 11.

Sec. 3, M. W. F., 2 to 5.

Sec. 4, T. Th., 2 to 5.

MA 34, 35, 36. Forge Shop Operations—Advanced and general repair work, including plow work, spring work, axle and tire setting, and horeshoeing. Prerequisites: Forge Practice 31, 32, 33. Fall, Winter, and Spring quarters. Section 1, 4 credits. Section 2, five credits.

Sec. 1, M. W. F., 8 to 11.

Sec. 2, daily except Sat., 2 to 5.

MA 37, 38, 39. **Select Work from Forge Practice 31, 32, 33**—For automobile and tractor students who cannot spend each day in the shops. Fall, Winter, and Spring quarters. Sections 1 and 3, four credits each quarter. Section 4, three credits each quarter.

Sec. 1, M. W. F., 8 to 11.

Sec. 3, M. W. F., 2 to 5.

Sec. 4, T. Th., 2 to 5.

MA 40, 41, 42. **Farm Shop Work**—This course is especially arranged for students in agriculture. The application of forging operations to repair on the farm. The repairing of the following farm implements will be included in the course: plow, harrow, wagon, hay-rake, mowing machine, binder, header, etc. Making and tempering punches and cold chisels, sharpening and tempering harrow teeth, picks, etc. Welding. Fall, Winter, and Spring quarters. Two credits each quarter.

T. Th., 2 to 5.

MA 131. **Advanced Shop Practice**—Composition and head treatment of steel. The student may emphasize any line of blacksmithing work that suits his particular needs. Prerequisites: Forging 34, 35, 36. Five credits. Credit will be given for unfinished courses according to work done. Not less than two credits will be given.

Daily, 2 to 5.

MA 132. **Smith-Hughes Unit—Metal Work.** Cold metal, hot metal, soldering, sheet metal, and plumbing. Fall and Spring quarters. Three credits each quarter.

T. Th., 2 to 5.

MA 133. **Foundry**—Operated for demonstration and the making of castings. If sufficient number of students apply, the foundry will be run for instructional purposes also.

MA 134. **Smith-Hughes Course**—Including cold metal, soldering and sheet metal. Monday, Wednesday and Friday from 2:00 to 5:00 during last half of Spring quarter. One and a half credits.

For related work given during first half of the quarter see Department of Woodwork, MA 168.

MACHINE WORK

All courses taught by Aaron Newey, Associate Professor.

The courses offered in the Machine Work Department give good basic training for the student who is thinking of a career along any line of mechanical work. The operations and principles taught will help in advancement in many lines of mechanical endeavor. Students

preparing for engineering, electrical work, auto-mechanics, aviation mechanics, ignition, tractor work, farm machinery; and those interested in model building, research, and experimenting, can well afford to take machine work; for it gives training in the use of the essential metal working tools.

All courses in Machine Work are open to vocational students.

MA 51, 52, 53. **Machine Shop Practice**—Lathe, planer, shaper, and drill-press operations, the use of hand tools, laying out, making automobile and machine parts, and other operations that are essential in machine shop practice. These courses include assignments of reading on machine work subjects, and the application of mathematics to machine work. Fall, Winter, and Spring Quarters. Five credits each quarter.

Daily, 8 to 11; daily, 2 to 5.

MA 51, 52, 53 may not be used to fill requirements for major.

MA 54. **Short Course**—Work selected from Machine Shop Practice 51. Fall, Winter, and Spring quarters.

Sec. 1, M. W. F., 8 to 11. Three credits.

Sec. 2, M. W. F., 2 to 5. Three credits.

Sec. 3, T. Th., 8 to 11. Two credits.

Sec. 4, T. Th., 2 to 5. Two credits.

MA 55. **Advanced Short Course**—Work selected from Machine Shop Practice 51 and 52. Prerequisite: Short Course 54. Fall, Winter, and Spring quarters.

Sec. 1, M. W. F., 8 to 11. Three credits.

Sec. 2, M. W. F., 2 to 5. Three credits.

Sec. 3, T. Th., 8 to 11. Two credits.

Sec. 4, T. Th., 2 to 5. Two credits.

MA 56, 57, 58. **General Machine Work**—Advanced lathe, planer and milling machine work, grinding milling cutters, gear cutting, making tools and special shop equipment. Prerequisite, Machine Shop Practice 53. Fall, Winter, and Spring quarters. Five credits each quarter.

Daily, 8 to 11; daily, 2 to 5.

MA 151, 152, 153. **Tool Making**—These courses include practice in making arbors, gauges, taps, reamers, milling cutters, etc., and in designing and building special tools and equipment. Prerequisite: General Machine Work 58. Five credits each quarter.

Daily, 8 to 11; daily, 2 to 5.

MA 155. S. H. Teachers' Machine Course—This course is planned to give the student who is training to become a shop-work teacher a general training in the operations and methods of doing machine work. Its purpose is to broaden his understanding of mechanic arts, and make him more proficient in tool processes and in the care and repair of school shop equipment. Only students of senior standing may register. From two to nine credits.

Time and credit to be arranged with the instructor.

Note:—For unfinished courses credits will be given according to work done, provided the student re-registers. Not less than two credits will be given.

WOODWORK

The shops, located in the Mechanic Arts building, are open daily from 8:00 to 12:00 a. m., and from 2:00 to 5:00 p. m., except Saturdays, when they are open from 8:00 to 12:00 only.

Regular five credit courses run five days a week, three hours a day, during Fall, Winter, and Spring quarters. Three hours a week throughout the quarter are required for each credit.

All courses in Woodwork are open to vocational students.

MA 61. Elementary Woodwork—Scarfig, mortising, dovetailing and jointing. Proper handling of tools is emphasized.

Hansen

MA 62. Elementary Woodwork—Panels, sashes, doors, etc., and rafter cutting; also thorough practice in tool sharpening.

Hansen

MA 63. Elementary Woodwork—Feedhoppers, trestles, gates, grindstone frames, beehives, etc., and simple furniture.

Hansen

These courses may not be used to fill requirements for major:

MA 64, 65, 66. Mill Work—The use of wood working machinery, building of a modern work bench and tool chest, elementary wood turning. Prerequisite: MA 63.

Swenson

MA 67, 68, 69. Housebuilding and Cabinet Making—Framing and roofing, door frames and window frames, French doors, casing up, and finishing. Also furniture in fir and oak, staining, fuming, etc.

Swenson

MA 70. Farm Woodwork—A special course for students in the Winter term. Embraces such problems in wood work as are commonly met on the farm.

Hansen

MA 71. Wood Carving—Simple problems in straight and curved lines, conventional ornaments, and natural foliage.

Time and credit to be arranged with the instructor. Swenson

MA 161, 162, 163. Advanced Woodwork—Special furniture in hardwood, Mahogany, walnut, etc., including advanced wood turning, veneering, inlaying, and hand polishing. Prerequisite: MA 69.

Swenson

MA 164. Pattern Making—Making of practical patterns for use in the college foundry.

Time and credit to be arranged with the instructor. Swenson

MA 165. Advanced Short Course—For students who do not fit into the regular schedule. Prerequisite: work equivalent to that listed under courses numbered below 100.

Swenson

MA 166. Picture Framing—Making of simple mouldings and frames, finishing, mat cutting, mounting and fitting. May be had in connection with the advanced courses in woodwork.

Time and credit to be arranged with the instructor. Swenson

MA 167. Wood finishing—Paints, oils and their manufacture, water, oil and spirit stains. Varnishes, kinds and preparation. May be taken any quarter if six or more students apply. One lecture a week each quarter. One credit.

Time to be arranged with the instructor.

Hansen

MA 168. Smith-Hughes Course—A course designed to meet the needs of teachers in Smith-Hughes work and for students in agriculture. Consists of tool sharpening and farm woodwork, form setting and concrete work, framing and housebuilding, leather and rope work.

M. W. F., 2 to 5, during first half of Spring quarter.

For related work given last half of the quarter see Department of Forging, MA 134.

Swenson

MILITARY SCIENCE AND TACTICS

MARTIN J. O'BRIEN, Major, C. A. C., Professor; JOHN L. HANLEY, First Lieutenant, C. A. C., Assistant Professor; EUGENE J. CALLAHAN, First Sergeant, D. E. M. L., Instructor.

The Agricultural College of Utah, having accepted the provisions of the Act of Congress approved July 2, 1862, is classified as a Land Grant College and is therefore obliged to offer a course in military science and tactics as a part of the College curricula.

Recognizing that preparation for the national defense is one of the important duties of citizenship, and that qualities of patriotism, loyalty, discipline, leadership, and respect for constituted authority inculcated by proper military training are valuable in the formation of character, it has been the consistent policy of the College to co-operate with the Federal Government in making the Department of Military Science and Tactics as effective as practicable.

To this end, military training has been made a required subject for all male students qualified and eligible therefor. Two years' training in the basic course is required of such students in all Schools of the College unless excused by proper authority.

At the request of the College authorities a senior unit of the Reserve Officers' Training Corps was authorized at this Institution by the President of the United States under the provisions of Section 33 of the Army Reorganization Act of June 4, 1920. Accordingly, the Board of Trustees has agreed to maintain a course in Military Science and Tactics as a required subject for all able-bodied male students during their first two years at the College.

The primary object of establishing units of the Reserve Officers' Training Corps is to qualify students for appointment in the Officers' Reserve Corps of the United States Army. This training will also be as valuable to the student in his industrial or professional career as it would be should the nation call upon him to act as a leader in its defensive forces.

Enrollment in the Reserve Officers' Training Corps is not in any sense "conscription," nor does it convey liability to service in any component or branch of the United States Army. As its name implies, the R. O. T. C. is an instrument of training and instruction only.

REQUIREMENTS IN MILITARY SCIENCE

Two years of military training are required of all able-bodied male students. By regulation of the College the course is required during the first and second years at the Institution.

No male student will be excused from the requirements in military science except for the reasons as listed on page 81 of this catalogue.

Any student claiming exemption for any valid reason will be required to present a petition on the prescribed form which may be obtained at the office of the Professor of Military Science and Tactics.

RESERVE OFFICERS' TRAINING CORPS

The four years course in the Reserve Officers' Training Corps is divided into the basic course and the advanced course.

The basic course consists of the first two years in Military Science and corresponds to the freshman and sophomore years. When entered upon by any student it shall, as regards such student, be a prerequisite for graduation unless he is relieved from this obligation by proper authority.

The advanced course consists of the third and fourth years of Military Science, and corresponds to the junior and senior years. Entrance upon the advanced course is elective, but once entered upon such course becomes a prerequisite for graduation, in accordance with the terms of the establishment of the Reserve Officers' Training Corps.

UNIFORMS AND EQUIPMENT

A serviceable uniform of standard army pattern is furnished by the War Department to each student taking military training. Shoes are not furnished. Each student should provide himself with a pair of high tan shoes, not laced boots, before entering the College, as they will be required immediately upon his admission.

Every student registering for Military Science will be required to make a uniform deposit of \$5.00. The refund of this sum, less the cost of any property lost or damaged, will be made upon the completion of the year, or upon withdrawal from the course.

The uniform and equipment issued for the use of students remains the property of the United States. At the end of each year, or at such other times as students may terminate their military training, all clothing and other supplies will be returned in a serviceable condition, not later than one week following the termination of such training. Articles which have been lost, damaged, or destroyed will be charged against the student concerned.

BASIC COURSE

Students in the basic course are required to pursue their courses diligently until satisfactorily completed, and to meet such requirements for the care of equipment as may be prescribed. In case of failure in any quarter of the freshman or sophomore years, the student will be required to repeat the work during the next quarter in residence.

Students who complete the two years' basic course are qualified as non-commissioned officers in the organized reserve, to which position they are appointed if they so desire.

ADVANCED COURSE

The advanced course is elective.

The general prerequisites for admission to the advanced courses are:

- a. Completion of two years' training in the basic course in any senior unit of the Reserve Officers' Training Corps.
- b. Selection for further military training by the President of the College and the Professor of Military Science and Tactics.
- c. The execution of an agreement in writing whereby the student in consideration of the commutation of subsistence furnished to him, agrees:
 - (1) To continue in the Reserve Officers' Training Corps during the remainder of his course in this College.
 - (2) To devote a minimum of five hours per week during this period to the military training prescribed.
 - (3) To pursue such courses of camp training during this period that may be prescribed by the Secretary of War.
- d. The student must be registered in one of the Schools of the College as an undergraduate while pursuing the advanced course.

Each student enrolled in the advanced course will be paid commutation of subsistence at the rate of thirty cents per day from the beginning of the first year of the advanced course to the end of the second year of the advanced course, except while attending camp, when the student will be subsisted in kind.

The course of camp training is for six weeks during the summer vacation, normally following the student's completion of the first year of the advanced course. The United States furnishes uniforms, transportation to and from the camp at the rate of five cents per mile, and subsistence for students attending the training camp. Students are also paid at the rate of seventy cents per day during their attendance at camp.

R. O. T. C. BAND

A military band is an element of the Reserve Officers' Training Corps, under the direction of the Band Instructor of the Music Department, and is governed by the rules of the Department of Military Science and Tactics. Uniforms and some instruments are furnished by the War Department.

Students who are selected as members of the band are required to register for Military Science and Music (Band). They will be required to take such theoretical work as may be prescribed, and sufficient practical drill to insure their making a creditable appearance in ranks. The greater number of drill hours, however, will be devoted to band training.

Instruction taken by members of the band is credited as instruction in military science but will not be accepted toward qualification for admission to the advanced course.

CREDITS

Students who satisfactorily complete the basic course receive one credit hour per quarter, which is included in the 180 credit hours required for graduation.

Students who satisfactorily complete the advanced course receive three credit hours per quarter, which counts toward the 180 credit hours required for graduation. In addition, students enrolled in the advanced course will receive three credit hours for satisfactory completion of the six weeks course at the training camp, held during the summer, between the junior and senior years.

Students majoring in the Schools of Arts and Sciences and Engineering may submit Advanced Military Science as a minor for graduation.

Members of the band who successfully complete the work in the various quarters receive credits as follows: First and Second years, one-half credit per quarter in Military Science, and one credit per quarter in music. Third year, one credit per quarter in Military Science, and one in Music.

COURSES OF INSTRUCTION

Classes in Military Science will not be held at times other than as scheduled herein, but any student desiring extra instruction may make the necessary arrangements with the Professor of Military Science and Tactics.

BASIC COURSES

101. **Military Science**—Freshman year, Fall quarter. Lectures, recitations and drills. Three hours per week. One credit.

The instruction during this quarter will include:

Infantry Drill; service of the piece (tractor and anti-aircraft artillery); ceremonies; Military courtesy and discipline; military policy of the United States; infantry drill regulations; gunner's instruction (second class subjects).

Entire class: T. Th. at 1; also Sec. 1, T. at 9; Sec. 2, T. at 11; Sec. 3, W. at 10; Sec. 4, Th. at 8; Sec. 5 Th. at 10. Hanley.

102. **Military Science**—Freshman year. Winter quarter. Lectures, recitations, and drills. Three hours per week. One credit.

The instruction during this quarter will include: Infantry Drill, service of the piece (tractor and antiaircraft artillery), rifle marksmanship, gunner's instruction (second class subjects).

Sec. 1, T. at 9 and M., 2 to 4.

Sec. 2, T. at 11 and T., 2 to 4.

Sec. 3, W. at 10 and W., 2 to 4.

Sec. 4, Th. at 8 and Th., 2 to 4.

Sec. 5, Th. at 10 and F., 2 to 4.

Hanley

103. **Military Science**—Freshman year. Spring quarter. Lectures, recitations, and drills. Three hours per week. One credit.

The instruction during this quarter will include: Infantry drill, artillery drill, ceremonies, inspections, gunner's instruction (second class subjects).

Sessions, days and hours same as listed under 101. Hanley

201. **Military Science**—Sophomore year. Fall quarter. Lectures, recitations, and drills. Three hours per week. One credit.

Instruction during this quarter will include: Drill and command (infantry and artillery), ceremonies, drill regulations, gunner's instruction (first class subjects).

Entire class: T. and Th. at 1, also Sec. 1, T. at 8; Sec. 2, T. at 10; Sec. 3, W. at 11; Sec. 4, Th. at 9; Sec. 5, Th. at 11. O'Brien

202. **Military Science**—Sophomore year, Winter quarter. Lectures, recitations, and drills. Three hours per week. One credit.

Instruction during this quarter will include: Drill and command (infantry and artillery), position finding and range section duties in connection with seacoast and antiaircraft artillery, gunner's instruction (first class subjects).

Sec. 1, T. at 8 and M., 2 to 4.

Sec. 2, T. at 10 and T., 2 to 4.

Sec. 3, W. at 11 and W., 2 to 4.

Sec. 4, Th. at 9 and Th., 2 to 4.

Sec. 5, Th. at 11 and F., 2 to 4. O'Brien

203. **Military Science**—Sophomore year, Spring quarter. Lectures, recitations, and drills. Three hours per week. One credit.

Instruction during this quarter will include: Drill and command (infantry and artillery), ceremonies, inspections, gunners' instruction (first class subjects), position finding and fire control for seacoast and antiaircraft artillery.

Sections, days, and hours same as listed under 201. O'Brien

ADVANCED COURSES

301. **Military Science**—Junior year, Fall quarter. Lectures, recitations, and practical instruction. Five hours per week. Three credits. Prerequisite: Military Science 203.

Instruction during this quarter will include:

(a) Practical—Duties as senior non-commissioned officers; drill and command; saber manual.

(b) Theoretical—Infantry drill regulations; gunner's instruction (expert subjects); gunnery for heavy artillery.

Entire class M. W. F. at 10; T., 1 to 3; Th. at 1. O'Brien

302. **Military Science**—Junior year, Winter quarter. Lectures, recitations, and practical instruction. Five hours per week. Three credits. Prerequisite: Military Science 301.

Instruction during this quarter will include:

- (a) Practical—Section (a) of course 301 continued.
- (b) Theoretical—Gunnery for heavy artillery; gunnery for anti-aircraft artillery; analysis of drill and target practice.

Entire class M. W. F. at 10 and one laboratory period, time to be arranged. O'Brien

303. **Military Science**—Junior year, Spring quarter. Lectures, recitations, and practical instruction. Five hours per week. Three credits. Prerequisite: Military Science 302.

Instruction during this quarter will include:

- (a) Practical—Section (a) of course 301 continued.
- (b) Theoretical—Conduct of artillery fire; map reading and military sketching.

Entire class M. W. F. at 10; T., 1 to 3; Th. at 1. O'Brien

401. **Military Science**—Senior year, Fall quarter. Lectures, recitations, and practical instruction. Five hours per week. Three credits. Prerequisite: Military Science 303.

Instruction during this quarter will include:

- (a) Practical—Duties as commissioned officers; drill and command.
- (b) Theoretical—Orientation; military law; military history.

Entire class M. W. F. at 11; T. at 1; Th., 1 to 3. Hanley.

402. **Military Science**—Senior year—Winter quarter. Lectures, recitations, and practical instruction. Five hours per week. Three credits. Prerequisite: Military Science 401.

Instruction during this quarter will include:

- (a) Practical—Section (a) of course 401 continued.
- (b) Theoretical—Military history; motor transportation; administration and supply.

Entire class M. W. F. at 11, and one laboratory period, time to be arranged. Hanley

403. **Military Science**—Senior year. Spring quarter. Lectures, recitations, and practical instruction. Five hours per week. Three credits. Prerequisite: Military Science 402.

Instruction during this quarter will include:

- (a) Practical—Section (a) of course 401 continued.
- (b) Theoretical—Field engineering; artillery material; artillery tactics.

Entire class M. W. F. at 11; T. at 1; Th., 1 to 3. Hanley

HOME ECONOMICS

JOHANNA MOEN, ALICE KEWLEY, CHRISTINE B. CLAYTON, Professors; CHARLOTTE DANCY, Assistant Professor; FRIEDA STOLL, Instructor.

FOODS AND DIETETICS

Students who elect Foods and Dietetics as their major are required to complete Foods 20, 30, 105 and 140.

5. **Food Selection**—A practical study of the relation of food to health. Natural food groups and their relation to each other are studied through menu-making and the selection of foods in public eating places. A discussion of correct table service and etiquette for various occasions is included. Not open to Foods and Dietetics majors. Winter quarter. Two credits.

T. Th. at 9.

Clayton

20, 21. **Food Preparation**—This course includes a study of the underlying principles of cookery, and practice in making breads, cakes, pastry, desserts, meat and vegetable dishes. The fundamentals of meal planning and serving are included in this course. Fall and Winter quarters. Three credits each quarter. Sections 2 and 3 reserved for Home Economics students.

Sec. 1—Laboratory M. W., 10 to 1. Lecture F. at 10.

Sec. 2—Laboratory M. W., 2 to 5. Lecture F. at 2.

Sec. 3—Laboratory T. Th., 10 to 1. Lecture S. at 10.

Sec. 4—Laboratory T. Th., 2 to 5. Lecture S. at 11.

Clayton and.....

30. **Food Economics**—This course included a study of the composition, production, and manufacture of foods. Food laws are studied in their relation to national and local food supplies. A comparison is made between manufactured products, on the basis of quality and cost. Prerequisite: Inorganic Chemistry. Spring quarter. Three credits.

M. W. F. at 8.

105, 106, 107. **Food Engineering**—Food preservation, including canning, preserving, jelly-making, storage, and refrigeration. Meal preparation and service suited to various occasions. Large quantity cooking. Lunchroom management. Commercial project in purchase, Preparation and serving of food. Prerequisites, Junior College Foods Courses and Bacteriology 1. Fall, Winter, and Spring quarters. Three credits each quarter.

Sec. 1, Lecture and Lab. M. W. F., 10 to 1.

Sec. 2, Lecture and Lab. T. Th. S., 10 to 1.

Clayton and.....

111. **Nutrition (for Athletes and P. E. Majors)**—A practical study of nutrition in relation to health, with emphasis on the needs of the body during muscular activity. Fall quarter. Two credits.

T. Th. at 9.

Clayton

140, 141, 142. **Dietetics and Nutrition**—A review of the fundamentals of Bio-Chemistry, particularly related to nutrition. Quantitative basis of human nutrition illustrated by a study of the energy value of foods, energy requirements of the human body, and the nitrogen and mineral balance experiments. Biological analysis of foods illustrated by problems in animal feeding. Nutrition in health and disease. Calculation and preparation of diets. Prerequisite: Organic Chemistry. Fall, Winter, and Spring quarters. Four credits each quarter.

Lec. M. W. F. at 9. Lab. W., 2 to 5.

Clayton

160. **Experimental Cookery**—Properly prepared students may select a problem in experimental cookery, and receive one unit of credit for one three-hour laboratory period a week.

Time to be arranged.

190, 191, 192. **Spical Study for Advanced Undergraduates**—Introduction to problems of nutrition, through assigned readings and reports of current literature. Fall, Winter, and Spring quarters. Two credits each quarter. Two consecutive hours once a week.

Time to be arranged.

Clayton and.....

GRADUATE COURSES

210. **Research**—Investigation of problems concerned with food preparation and nutrition.

Time and credit to be arranged.

Clayton

290, 291, 292. **Seminar**—Fall, Winter, and Spring quarters. Two credits each quarter. Two consecutive hours once a week.

Time to be arranged.

Clayton and.....

TEXTILES AND CLOTHING

Students who elect Textiles and Clothing as their major are required to complete the following courses: Textiles and Clothing 10, 20, 30, 105, 115, 125, 160.

1, 2, 3.. **Elementary Clothing**—This course aims to emphasize the relation of the personality to dress through the study of art principles applied to clothing construction; pattern study, selection and construction of underclothing and dresses. Lectures and laboratory work. Two credits each quarter. Fall, Winter, and Spring.

Sec. 1, W. F., 10 to 1.

Sec. 2, T. Tb., 2 to 5.

Stoll

5. **Dress Appreciation**—This course aims to develop an appreciation of appropriateness and good design in dress. Clothing economics and hygiene will also be discussed. Two credits. Fall quarters.

T. Tb. at 11.

Stoll

10, 11. **Clothing and Handwork**—A study of the fundamental principles of drafting, design, and pattern making; selection and construction of underwear, dresses, and household furnishings. Prerequisites: Art 1, 2, 3.. Three credits each quarter. Fall, Winter, and Spring quarters. Three credits each quarter.

Sec. 1, Fall and Winter, Lec. and Lab. M. W., 2 to 5.

Sec. 2, Fall and Winter, Lec. and Lab. T. Tb., 10 to 1.

Sec. 3, Winter and Spring, Lec. and Lb. M. W., 2 to 5.

Moen and Stoll

20, 21. **Economics of Textiles**—Part 1 is a study of standard Textiles from the standpoint of growth, structure, preparation, design, and relative value of materials for clothing and house furnishing. Attention is given to the historical and economic phases of the textile industry.

Part 2 includes identification of fibres and substitute material by means of the microscope and physical tests. The aim of this work is to form a basis for intelligent purchase and use of materials. Prerequisites or parallel courses: Economics 1 and 2. Fall and Winter quarters. Three credits each quarter.

M. W. F. at 9.

Moen

30. **Millinery**—Special study of individual problems by designing in paper; construction of frames; application of fundamental principles

of various methods of covering foundations; flower making. Prerequisites or parallel courses: Art 1, 2, 3; Textiles 10, 11 or their equivalents. Three credits. Spring quarter.

M. W. F., 2 to 5.

Stoll

40. **Dress Decoration**—This course includes principles of design in relation to decoration of dress and household furnishings. Various means will be used in developing simple decorations for all types of garments, table linen, household furnishings. Outside work required. Prerequisites: Art 1, 2, 3, and Textiles 10, 11. Spring quarter. Three credits.

M. W. F., 10 to 12.

Moen

105. **History of Costume**—A survey of ancient Egyptians Grecian, Roman, early and modern French costumes. It aims to give practical information for the use of students and teachers of clothing and costume design. Three credits. Fall quarter.

M. W. F. at 11.

Moen

115. **Costume Design**—Art structure in its application to dress. Studies of personality and types of people; harmonies in spacing, rythm, balance, color theory. Designing for various occasions. Outside work required. Prerequisites: Art 1, 2, 3. Winter quarter. Three credits.

T. Tb., 10 to 1.

Stoll

125. **Applied Costume Design**—This course gives practical training in the application of the principles of costume design, color harmony, texture, for different individuals and purposes. Practice in constructive design is given by modeling in cloth on the dress form. Outside work required. Spring quarter. Three credits.

T. Tb. S., 10 to 1.

Stoll

160, 161, 162. **Advanced Problems in Clothing**—Special application of principles of design and construction to tailored garments, afternoon and evening dresses, infants' and children's clothing. Demonstrations and laboratory work. Prerequisites: Textiles 10, 11, 20, 105, 115, 125. Fall, Winter and Spring quarters. Two credits each quarter.

T. Tb., 2 to 5.

Moen

For closely related courses see:

Chemistry 109 (Textile Chemistry.) Students who elect Textiles and Clothing as their major are urged to take this course.

HOUSEHOLD ADMINISTRATION

Students who elect Household Administration as their major are required to complete the following courses: Household Administration 25, 122, 123, 125, 150. Students wishing to qualify as teachers of Household Administration must complete Education 120, and 122.

10. Survey in Home Economics—Designed to serve as an introduction to College Home Economics; a survey of the field with study of the Home Economics Movement in America. Special emphasis on the wise use of time, energy, and money. Open to all college women. Fall quarter. Two credits.

T. Th. at 11.

Kewley

20. History of Domestic Architecture—History of the house from primitive times to the present. Spring quarter. Three credits.

(Not given 1928-29.)

Fletcher

21. History of Furniture—History of interior decoration and furniture styles. Spring quarter. Three credits.

M. W. F. at 11.

Fletcher

25. Care of the Sick—A course in home nursing, and first aid to the injured. The first hour is devoted to discussion; the laboratory to demonstrations and practice. Reading of reference works and writing of special reports. Laboratory apron required. Fall or Spring quarter. Two credits.

Lec. T. at 8. Lab. T., 2 to 5.

Dancy

125. Mothercraft—The course includes the anatomy and physiology of the reproductive system. The care of the mother and child to the end of the first year. Prerequisite: Physiology 4. Winter quarter. Section limited to 25. Three credits.

M. W. F. at 8.

Dancy

150. Household Management—A study of the organization and management of the household, including a consideration of the ideals fundamental to wholesome family life. Laboratory projects will consist of the application of the underlying principles of household management during the period of residence in the Home Economics Cottage. A fee of \$7.00 per week will be charged each student while in residence. Open to Seniors only. Prerequisites: Foods 105, 106, 107, and Textiles 20. Household Accounts recommended. Two lectures a week, in addition to the laboratory projects in the cottage. Lecture, Fall and Winter quarters, 2 credits each quarter. Laboratory, Fall, Winter, or Spring quarters. Three credits.

T. Th. at 12.

Kewley

For closely related courses see:

Accounting 107. (Household Accounts).

Art 122. (Home planning and Construction).

Art 123. (Interior Decorating).

THIRTY-FIFTH ANNUAL COMMENCEMENT

List of Graduates 1927-28

GRADUATE DIVISION Graduates with the Degree of MASTER OF SCIENCE

School of Agriculture

BLOOD, H. LORAN

B. S. 1926 U. A. C.

Thesis: Studies on Tomato Mosaics with Special Reference to Tomato Streak.

GARDNER, ROBERT

B. S. 1916 U. A. C.

Thesis: The Activity of the Replaceable Bases in Soil Colloids.

HANSEN, CLARENCE JAMES

B. S. 1920 U. A. C.

Thesis: Studies on the Control of Loose Smut of Wheat.

HEYWOOD, DAVID E.

B. S. 1922 U. A. C.

Thesis: Correlated Inheritance in Wheat III Federation X III C 18 (Dicklow x Sevier Hybrid).

PRICE, HAROLD H.

B. S. 1927 U. A. C.

Thesis: Inheritance Studies in a Cross of Sevier x Odessa Wheat.

School of Engineering

MONSON, OLOF WILFORD

B. S. 1926 U. A. C.

Thesis: Irrigation Expansion on The Sevier River, Utah, With Special Reference to The Piute Project.

School of Arts and Sciences

JENSEN, JAMES

A. B. 1917 Brigham Young University

Thesis: An Epidemiology of Typhoid Fever in The State of Utah.

School of Commerce

HENDRICKS, CAROLINE McALISTER

B. S. 1927 U. A. C.

Thesis: Practices in Some Successful Families in Logan.

KIRK, HARVEY A.

B. S. 1925 U. A. C.

Thesis: A Study of the Economic Relationship of the International Smelter to Agriculture in Tooele Valley.

School of Home Economics

MORGAN, HARRIET

B. S. 1926 U. A. C.

Thesis: A Historical and Experimental Study of Rickets.

School of Education

McGREGOR, CHARLES P.

B. S. 1914 U. A. C.

Thesis: The Status of Teacher Rating in Utah.

WILLIS, MARY OSMOND

B. S. 1919 University of Wyoming

Thesis: A Detailed Study of the Utah Agricultural College Alumni for the First Twenty-five Years Measured in Terms of Geographical Area and Trends of Education.

UNDERGRADUATE DIVISION

Graduates with the Degree of Bachelor of Science

AGRICULTURE

Bennion, Noel L.

Burke, Melvin

Christiansen, Roy Merrill

Durrani, Muhammad Sarwar

Hulme, Benjamin F.

Hymas, Charles A.

Judd, B. Ira

Kirby, Owen Albert

Nowell, Reynolds I.
Pace, John Mathis
Peterson, Howard
Rampton, Henry H.
Roland, Lewis E.
Stirland, LaGrande L.
Stuart, William W.

Suzuki, Motosuke
Turley, E. C.
Walker, LeGrand
Yamanouchi, Yoshihiko
Younker, Chester D.
Zobell, Ira Deloss

HOME ECONOMICS

Adamson, Mary Bonne
Bennett, Mary
Benson, Constance
Blackham, A. Lucile
Broadhead, Naomi
Cox, Donnetta
Crane, Olive
Crockett, Evelyn Gailey
Curtis, Lucile
Green, Emma
Groesbeck, May Cowley

Hirst, Alta
Hurren, Eulalia
Madsen, Edna
Shurtz, Oneta K.
Sorenson, Edna
Stringham, Ruby
Thorson, Edna L.
Tuckfield, Maud M.
Wagstaff, Evangeline
Woodward, Gladys
Zollinger, Ruth Elizabeth

AGRICULTURAL ENGINEERING

Hawley, James Warren
Larson, Vernon Joseph

Maughan, Elvin Freestone
Purdy, Frank H.

MECHANIC ARTS

Dial, Willis Aaron
Green, Harold Williams
Johnson, Oswald L.
Last, Charles Henry

Liddle, Wallace Jorgensen
Rollins, Joseph Clarence
Titensor, Roscoe

CIVIL ENGINEERING

Holmes, J. Mark

Riter, John Randolph
Tingey, Willis Alma

COMMERCE

Allred, Edgar M.
Bearnson, William L.
Benson, Serge Nelson
Blood, Seth L.
Broadhead, Daken K.
Cranney, A. G.

Cooley, Hazen J.
Erickson, Sylvan
Evans Elvin E.
Fredericksen, Earl A.
Galbraith, C. Layton
Hammond, Darvel T.

Hancey, Carlos
 Harding, Charles L.
 Henrie, Duncan Wayne
 Johnson, V. Merrill
 Jones, Daniel O.
 Larson, Willard Abner
 Lillywhite, Alden
 McCune, John G.
 Morgan, Alvin W.
 Morrell, Lyman Daines
 Neilson, George Darrell
 Olson, Charles G.
 Rex, A. Elden

Ritchie, G. Wendel
 Rogers, Theodore
 Sparks, Marvin LeRoy
 Stewart III, J. Z.
 Stratford, Richard C.
 Thain, Theodore Evans
 Theurer, Lloyd M.
 Thomas, J. Floyd
 Wahlquist, Keith Campbell
 Walter, H. Glen
 West, Roy
 Yeates, I. Marvin

ARTS AND SCIENCES

Arnold, Gomer
 Austin, Elna Cowley
 Bachman, Velta Ann
 Bailey, Grace Evelyn
 Barker, Elwood Ives
 Bell, Ruth M.
 Christenson, L. Dean
 Christensen, Frank Alton
 Clark, Cyrus Lowell
 Clark, Gwyn Roueche
 Clark, Wilford
 Cole, Amos Glenn
 Cowley, Charles Gloyd
 Daniels, Cleone Price
 Eliason, Afton Yeates
 Fife, Lorin C.
 Fonnesbeck, Maya Margretha
 Greaves, Florence Dudley
 Greaves, Joseph Dudley
 Hesser, Gladys Louis
 Johns, Vernald William

Johnson, Phyllis E.
 Kevern, Ernest Kinsey
 Knight, Roma Virginia
 Larsen, Mainard C.
 Lindblad, Victor L.
 Marler, Otis E.
 Maughan, Peter Alton
 Moser, Faye Yeaman
 Nelson, Scott G.
 Olson, Leland M.
 Olson, Lucile
 Rosengreen, George Ernest
 Schaub, G. Wesley
 Skanchy, W. Leland
 Smith, Gwendolyn
 Stevens, Helen Emeroy
 Sutton, Damaris
 Swinyard, Chester Allan
 Wakley, Dorothy
 Wardleigh, Anna Virginia

EDUCATION

Allred, Rolon LaMar
 Allred, Theras Orson
 Anderson, Hilda
 Baird, Dean
 Benson, John
 Burns, Annie Ethelyn
 Galloway, Fontella
 Gibbons, Robert Gifford

Graff, Oliver
 Green, Nathan Weldon
 Hancey, J. Everett
 Harris, Vernal J.
 Hawkins, Mabel
 Hess, Alvin
 Hutchings, Marion Price
 Jackson, Verna

Keetch, Rulon P.
 Law, Reuben D.
 Linford, Howard B.
 Martindale, Addington A.
 Nielson, Cantril
 Prisbrey, M. Grant

Rich, Virginia Louise
 Schaub, Vesta
 Tyson, Gladys
 Worley, Erma
 Woozley, Mary

GRADUATION WITH HONORS

Clark, Cyrus Lowell, Physics

GRADUATES WITH THE NORMAL DIPLOMA

Abbott, James
 Adams, Lisle J.
 Davis, Orpha
 Fisher, Emma
 Frederickson, Greta
 Goodey, Tellma
 Greene Vira
 Griffiths, Mary
 Hale, Hattie Lois
 Hansen, Bernice
 Hansen, Wynona Mae
 Harris, Luella Mae
 Hawkes, Selma
 Hogan, Lillian
 Hyde, Irma
 Jarvis, Ella Margaret
 Kerr, Louise
 Larson, Dora

Larson, Jessie
 Law, Rozella
 Madsen, Lola
 May, Claudia M.
 Merrill, Thais A.
 Nelson, Vonda
 Parkes, Itha
 Peterson, Marie
 Rallison, Martha
 Rose, Cleone
 Sant, Orella
 Sant, Thelma
 Smith, Gladys
 Smith, Pearle
 Sorenson, DeVola
 Valentine, Delone E.
 Whittle, Perry D.
 Winn, Elva

OFFICERS RESERVE CORPS OF THE ARMY OF THE UNITED STATES

Second Lieutenant, Coast Artillery Corps

Allred, Rolon LaMar
 Barker, Elwood Ives
 Holmes, Joseph Mark

Rollins, Joseph Clarence
 Stark, Arvil Lane

HONORS 1927-28

SCHOLARSHIP A'S

Franke Beal
 Gwyn Roueche Clark
 Vernon Israelsen
 Dorothy Wakley

Lloyd Henry Crapo
 Ben F. Hulme
 Louis Madsen

HONORABLE MENTION

Dudley Greaves
Ruth Zollinger
Selma Hawkes

Arminta Hogan
Sigrid Skanchy

VALEDICTORIAN

Phyllis Johnson

SCHOLARSHIPS

The following students were awarded the Johansen Scholarships for 1928-29:

Pearl Richards

Lloyd Davis

Ruth Hart

The following students were awarded the 1927 Senior Gift Scholarships for 1928-29:

James T. Underwood

Verda Dowdle

DEBATING AND ORATORY

Leland Skanchy
Vernald Johns
Alden Lillywhite
William Morrell
Merrill Anderson

Laura Bankhead
Gwyn Roueche Clark
Donna Benson
Verda Stirland
Vira Greene

The Hendricks Medal Won by:

Leonard Judkins

The Sons of the American Revolution Medal Won by:

Merrill Anderson

SPECIAL AWARDS

The Citizenship Award—A medal given for distinguished College Citizenship, was awarded to V. Merrill Johnson.

The Reserve Officers' Training Corps Medal—Given to the member of the R. O. T. C. who best represents the ideal of the Corps, was awarded to J. Clarence Rollins.

The William Peterson Science Medal—Given to the author of the best paper on some selected scientific subject, was won by Afton Y. Eliason.

The Vernon Medal—Given to the writer of the best short story written around a western setting, was won by Earl P. Wixom.

The American Legion Scholarship Medal—Given to the Letterman maintaining the highest scholastic standing during the Football Season, was won by Robert Dahle.

The American Legion Military Medal—Given to the Letterman exhibiting the most wholesome attitude toward military training during the Football Season, was awarded to Alma Gardner.

STUDENT OFFICERS

V. Merrill Johnson
Hortense Swendsen
Nora Blood
Scott Nelson
Paul Larsen
Alden Lillywhite
Richard Stratford

President
Vice-President
Secretary
Editor, "Student Life"
Business Manager, "Student Life"
"Editor-in-Chief, "Buzzer"
Business Manager, "Buzzer"

LIST OF STUDENTS

1927-28

In the following list "a" stands for agriculture; "as" for arts and science; "e" for engineering and mechanic arts; "ho" for home economics; "c" for commerce; "SS" for summer school; "G" for Graduate; "S" for Senior; "J" for Junior; "So" for Sophomore; "F" for Freshman; "V" for Vocational; "Un" for unclassified.

Abbott, Emerson G. a-F.....Tremonton
Abbott, James as-So.....Paradise
Adams, Afton ed-So.....Ogden
Adams, Alden S. a-F.....Kanab
Adams, Ardes ed-So.....Garland
Adams, Armenia G-SS.....Logan
Adams, Clare ho-So.....Logan
Adams, Hazel SS.....Logan
Adams, John R. a-J.....Parowan
Adams, Lisle as-So.....Tremonton
Adams, Louis J. a-F.....Parowan
Adams, Ruth E. as-F.....Layton
Adamson, Bonne ho-S.....Richmond
Adamson, Lynden S. a-F.....
.....Ocean Park, Calif.
Aebischer, Joseph K. e-V.....Logan
Aebischer, Matilda ho-J.....Logan
Affleck, Clark as-So.....Logan
Agnew, Edith J. SS.....Logan
Agrusa, John G-SS.....Reno, Nevada
Alder, Aldora ho-So.....Logan
Alder, F. C. SS.....Manti
Alder, Owen a-F.....Providence
Alexander, Ralph G. a-F.....Vernal
Alkire, Elizabeth c-So.....Logan
Alleman, Clarence e-V.....Bern, Idaho
Allen, A. E. SS.....Providence
Allen, Beatrice c-F.....Hyrum
Allen, Edna L. ed-So-SS.....Logan
Allen, Ina Mary ed-F.....Richmond
Allen, LaVern ed-F.....Logan
Allen, Leland F. as-So.....Logan
Allen, Lucile O. as-So.....Providence
Allen, William Argel c-J.....Lewiston
Allred, Deon SS.....Fountain Green
Allred, Edgar M. c-S.....Logan
Allred, Rolon LaMar as-S.....Logan
Allred, Theras O. SS.....Logan
Allred, Vesta c-F.....Lorenzo, Idaho
Anderson, Algot E. SS.....Sandy
Anderson, Anthon E. c-F.....Logan
Anderson, Ervin a-F.....Heber
Anderson, Farel c-F.....Heber
Anderson, Hilda as-S.....Mendon
Anderson, Ione SS.....Rexberg, Idaho
Anderson, Irving E. a-F.....Brigham
Anderson, Leone SS.....Blackfoot, Idaho
Anderson, Marie as-So.....Logan
Anderson, Marion ed-So.....Logan

Anderson, Maynard e-V.....Tremonton
Anderson, Melvin E. a-G.....Logan
Anderson, Merrill B. as-F.....Logan
Anderson, Mildred ed-F.....Brigham
Anderson, Paul E. c-F.....Provo
Anderson, Stanley R. SS. Salt Lake City
Anderson, Sterling ed-So-SS. Grantsville
Anderson, Thelma as-F.....Salina
Anderson, Vesta ho-F.....Tremonton
Andrews, Elva H. SS.....Logan
Andrews, Theona SS.....Garland
Archibald, Melvin H. a-F.....Wellsville
Arnold, Gomer as-S.....Cleveland
Asay, George A. c-F.....Logan
Ashbaker, Freeman a-So.....Logan
Ashcroft, Ruel R. a-F.....Springville
Ashton, Ellen ho-F.....Ogden
Ashton, Ethelynn ho-F.....Vernal
Astle, Orrin W. SS.....Logan
Astle, Walter S. as-F.....Logan
Atkin, Floyd as-F.....Tooele
Ault, Dorothy c-F.....Logan
Austin, Elna C. as-S-SS.....Logan
Bachman, Velta Ann as-S.....Ogden
Badger, Breta ho-So.....Greenriver
Baer, Lucille Mae c-F.....Providence
Bagley, Maxine as-So.....Murray
Bahen, Harry a-F.....Paradise
Bailey, Beatrice SS.....Salt Lake City
Bailey, Evelyn as-S-SS.....Nephi
Bailey, Vivien ho-So.....Salt Lake City
Bailey, William Lee c-So.....Nephi
Bair, Florence as-F.....Lewiston
Baird, Dean as-S.....Logan
Baird, Evelyn ed-F.....Heber
Baird, John Edwin a-F.....Brigham
Baird, Junius a-F.....Brigham
Baker, H. Cecil SS.....Minersville
Baker, Margaret ed-So-SS.....Logan
Baker, Sophia SS.....Logan
Baldwin, Thora ed-So.....Salt Lake City
Ballam, Phyllis SS.....Logan
Ballantyne, Mary S. c-F.....Logan
Ballard, Edna M. as-F.....Cache Junction
Ballard, O. D. SS.....Draper
Ballard, Reid H. e-J.....Cache Junction
Ballard, William H. e-F.....Logan
Balling, Nina ed-F.....Logan
Balls, Berdean c-J.....Hyde Park

Bancroft, Lutie as-F	Logan	Blood, Nora as-So	Kaysville
Bangerter, Alma H. a-F	Woods Cross	Blood, Seth L. c-S	Kaysville
Bankhead, George E. a-So	Logan	Bohne, E. F. SS	Mt. Pleasant
Bankhead, Laura as-So	Logan	Bolin, Arita c-So	Lehi
Barber, Jane SS	Logan	Bollseweiler, Allen F. SS	Logan
Barber, Reed Lee c-F	Tooele	Bolton, Ruby SS	Paris, Idaho
Barker, Edwood Ives as-S	Ogden	Bott, Victor J. SS	Brigham
Larlow, Rowena SS	Salt Lake City	Boudrero, Blanche ed-So	Logan
Barrett, Joseph M. e-G	Logan	Bowen, Myles F. as-J	Spanish Fork
Barrus, B. H. SS	Rockland, Idaho	Bowman, Henneth Eugene ed-F	Logan
Barson, Hyrum John e-V	Clarkston	Bown, Beryl as-F	Gunnison
Bartlett, W. Herbert as-So	Logan	Bown, Ovila as-So	Gunnison
Barton, George SS	Ephraim	Boyle, Juanita ed-So	Logan
Barton, Verda R. SS	Scipio	Boyle, Stanley M. as-J	Payson
Bartschi, Vernon John as-J	Providence	Boyle, William Dean a-So	Payson
Bateman, Harold C. SS	Logan	Brackett, A. Catherine SS	Mora, Minn.
Bateman, LuRee SS	Sandy	Bradshaw, Donald c-F	Wellsville
Bates, A. Parley SS	Hooper	Brady, William W. SS	Castle Dale
Beagley, Lewis as-So	Nephi	Brandt, G. Morett as-F	Salina
Beal, Franke as-J	Tremonton	Brandt, Howard as-F	Richmond
Beal, Max as-F	Tremonton	Brenchley, Lewis H. as-So	Wellsville
Beardon, William SS	Salt Lake City	Brenchley, Myron H. e-So	Wellsville
Beaumont, Ellen as-G	Beaver	Brenchley, Preston H. a-So	Wellsville
Bechtolt, C. D. SS	Firth, Idaho	Briggs, Victor a-F	Logan
Bech, Ed. M. SS	Spanish Fork	Broadhead, Daken K. c-S	Nephi
Beckstead, Melburn as-F	Logan	Broadhead, Naomi ho-S-SS	Nephi
Beckstead, Florence M. ed-So	Logan	Broberg, Paul as-So	Logan
Beckstead, Raymond C. c-F	Driggs, Idaho	Brooksby, Oscar e-V	Salt Lake City
Bee, Maurine J. ho-So	Provo	Brown, Fremont as-J	Rexburg, Idaho
Beeskow, Herbert C. SS	Oak Park, Illinois	Brown, Junior SS	Wichita, Kansas
Bell, Eugene c-F	Logan	Brown, Keith a-So	Grantsville
Bell, Ruth M. as-S-SS	Logan	Brown, Leora as-F	Logan
Bennett, George H. a-F	Syracuse	Buchanan, O. W. c-F	Logan
Bennett, Mary ho-S-SS	Salt Lake City	Buckby, Denard W. a-G	Salt Lake City
Bennion, Ella as-J	Logan	Budge, Clare T. as-F	Logan
Bennion, Lyman a-So	Logan	Budge, Rush C. SS	Logan
Bennion, Marion as-F	Logan	Budge, Vernon M. c-F	Logan
Bennion, Noel a-S	Logan	Bullen, Reed c-So	Logan
Benson, Constance ho-S	Logan	Bullen, Sibyl ed-F	Richmond
Benson, Donna, as-So	Logan	Bunnell, Edna ho-So-SS	Eureka
Benson, Gladys as-F	Logan	Burgoyne, Alma C. a-S	Logan
Benson, John SS	Garland	Burgoyne, Irvin e-J	Logan
Benson, Serge N. c-S-SS	Logan	Burgoyne, Lucile SS	Logan
Benton, George Edward e-F	Logan	Burgoyne, Margaret ho-So	Logan
Bergeson, Audrey ed-F	Cornish	Burke, Melvin a-S	Honeyville
Berry, Berta c-V	Logan	Burnham, Clarence a-J	Brigham
Bereson, Douglas A. a-So	Cornish	Burham, Janet SS	Logan
Bergeson, Rulon C. a-F	Lewiston	Burnham, Lyman e-F	Logan
Bickmore, Afton ed-F	Logan	Burnham, Weldon S. as-F	Logan
Bickmore, Lee Smith as-So	Paradise	Burns, A. Ethelyn as-S	Logan
Bickmore, Wallace O. SS	Green River	Burris, Alden S. c-F	Logan
Biggs, Edrie SS	Franklin	Burton, Beatrice Hansen SS	Logan
Bigler, Clarence c-J	Collinston	Burton, Charles SS	Logan
Bindrup, Violet SS	Logan	Burton, Charles Franklyn a-F	Parowan
Bingham, Amos A. a-F	Morgan	Burton, E. Boyd a-So	Nephi
Bingham, Golden a-J	Salina	Burton, Mary SS	Irwin, Idaho
Bischoff, Roscoe A. e-V	Logan	Busby, Wilma Elizabeth SS	St. David,
Bishop, George E. as-F	Garland	Arizona	
Bjornson, Fannie SS	Duchesne	Bushman, Silas A. a-G	Logan
Blackham, Lucile ho-S	Moroni	Byington, Arnel e-V	Logan
Blackham, Stafford as-So	Moroni	Cruikshank, Donald B. c-So	Logan
Blair, Lucille as-So	Logan	Cummings, Jos. D. a-J	Brigham
Blair, Seth Harvey as-F	Logan	Cummings, Leona c-So	Brigham
Blanchard, Thomas Lidell e-V	Smithfield	Curtis, Lucile ho-S	Payson
Blood, H. Loran a-G-SS	Logan	Curtis, Ray B. SS	Victor, Idaho

Cushman, Lovie SS..... Pingree, Idaho
 Dahle, Robert a-So..... Logan
 Dahnken, F. Carsten as-J..... Salt Lake City
 Daines, Robert Henry as-So..... Logan
 Daines, Wanda ho-F..... Logan
 Dalley, R. J. SS..... Teasdale
 Dana, Loral C. SS..... Mesa, Arizona
 Dancy, Charlotte E. as-G..... Logan
 Daniels, Cleon P. as-S..... Logan
 Daniels, John c-V..... Rock Springs, Wyo.
 Darley, Leon J. c-F..... Logan
 Davis, Carl Garrett a-So..... Vernal
 Davis, Carma SS..... Brigham
 Davis, Chester V. SS..... Ruth, Nevada
 Davis, Florence as-V..... Logan
 Davis, George C. a-So..... Vernal
 Davis, Harrison W. as-F..... Logan
 Davis, H. Floyd c-F..... Logan
 Davis, Iona as-F..... Ogden
 Davis, James Edward a-J..... Garland
 Davis, Lloyd N. a-So..... Brigham
 Davis, Orpha ed-J..... Logan
 Davis, Richard e-F..... Spring Canyon
 Davis, Roland W. c-G..... Logan
 Day, Arvilla H. ho-J..... Parowan
 Day, Geneva SS..... Draper
 Day, Joseph, a-So..... Draper
 Decker, Alma V. a-F..... Logan
 Decker, John Franklin a-So..... Logan
 Delehart, Clara I. SS..... Chicago, Ill.
 Denison, Mrs. J. Melvin SS..... Logan
 Despain, Owen M. a-F..... Venice
 Dial, Willis A. e-S..... Logan
 Dittmore, Marlin Lewis c-F Pleasant Grove
 Dixon, Helen SS..... Chicago, Ill.
 Domgaard, Edna SS..... Salina
 Domgaard, Gwendolyn SS..... Glenwood
 Domgaard, Mignon as-F..... Glenwood
 Doty, Ellis as-So..... Richmond
 Dowdle, A. LaVair as-F..... Newton
 Dowdle, DeFonda SS..... Newton
 Dowdle, Verda as-J-SS..... Newton
 Downey, Ruth M. SS..... Chicago, Ill.
 Drews, H. Hattie SS..... Chicago, Ill.
 Duke, G. Lester SS..... Grinnell, Iowa
 Dunbar, Clarice c-V..... Logan
 Dunlap, Eloise SS..... Tahoe, Calif.
 Dunn, Charles O. as-So..... Logan
 Dunn, Ione as-So..... Logan
 Dunn, Meryl c-So..... Logan
 Dunyon, Florence SS..... American Fork
 Durrani, Muhammad S. a-S-SS..... Quetta,
 India
 Dutson, Ernest a-So..... Hinckley
 Eames, David Ivo a-J..... Logan
 Eames, Melba ed-F..... Logan
 Earl, Joseph L. SS..... Malad
 Eberhart, E. Corinne SS..... Chicago, Ill.
 Eckersell, Ondulyn as-So..... Logan
 Edwards, Leah as-J..... Salt Lake City
 Edwards, Lcslie W. SS..... Panaca, Nevada
 Egbert, Gardner S. e-F..... Logan
 Egbert, Samuel SS..... Logan
 Eliason, Afton Y. as-S..... Logan
 Eliason, Farris M. as-F..... Logan

Eliason, Newell G. as-So..... Logan
 Elford, A. Adelaide SS..... Logan
 Ellis, Martell a-F..... Pleasant Grove
 Ellison, Oma as-F..... Layton
 England, David W. e-So..... Logan
 Erickson, Charles A. c-F..... Logan
 Erickson, Esther as-So..... Logan
 Erickson, Sylvan c-S..... Logan
 Esplin, A. C. SS..... Logan
 Evans, David c-So..... Logan
 Evans, Elvin E. C-S..... Logan
 Evans, James W. SS..... Malad
 Evans, Margaret SS..... San Francisco, Calif.
 Evans, Peter E. e-J..... Garland
 Everton, Marion K. as-J..... Logan
 Everton, Wallace SS..... Logan
 Fairchild, Asahel SS..... Oakley, Idaho
 Farnes, Lorne ed-So..... Logan
 Farnsworth, Esther SS..... Salt Lake City
 Farr, Helen SS..... Oak Park, Ill.
 Farrar, Elmer W. a-So..... Sandy
 Farrell, Leah SS..... Logan
 Fausett, Adelbert a-So..... Price
 Faylor, Sybil Orpha as-So..... Logan
 Ferguson, Earl SS..... Brigham
 Fife, Belva SS..... Ogden
 Fife, Coy ho-J..... Providence
 Fife, Karl as-J..... Logan
 Fife, Lorin C. as-S..... Logan
 Fife, Lucille ed-F..... Providence
 Finlinson, Afton SS..... Leamington
 Fishburn, Raymond M. c-So..... Brigham
 FISHE, Lucretia E. ho-J..... Logan
 Fisher, Alma S. SS..... Syracuse
 Fisher, Emma ed-So..... Richmond
 Flake, Augusta SS..... Snowflake, Arizona
 Flamm, Ronald as-So..... Logan
 Fletcher, Eugene W. as-F..... Wellsville
 Fletcher, Herbert C. as-So..... Logan
 Fletcher, Sam H. SS..... Preston, Idaho
 Fluckiger, Henry SS..... Bedford, Idaho
 Fogelberg, Thelma as-J-SS..... Logan
 Folkman, Serena ed-F..... North Logan
 Follett, Ramona ed-F..... Logan
 Fannesbeck, Alice as-So..... Logan
 Fannesbeck, M. Margretha SS..... Howell
 Forrester, Robert A. as-J-SS..... Richmond
 Fowler, Loren as-J..... Logan
 Fox, Ada as-F..... Lehi
 Calder, Vera ho-So..... Vernal
 Call, Joe G. c-So..... Brigham
 Call, Marie as-F..... Brigham
 Call, Mary as-F..... Brigham
 Call, Vosco P. as-J..... Brigham
 Call, Wilford e-So..... Bountiful
 Campbell, Elgin S. SS..... Richmond
 Campbell, Keith G. as-F..... Providence
 Campbell, Theron a-F..... Providence
 Cannon, Allen as-J..... Fielding
 Cannon, Hyrum P. as-F..... Logan
 Cannon, Raymond R. e-V..... Smithfield
 Card, LaVair SS..... Logan
 Cardon, Ezra B. a-So..... Logan
 Cardon, Karma as-F..... Logan
 Cardon, Lucille c-F..... Logan

Cardon, P. V. SS.....	Logan	Collier, Theodore R. c-J.....	Logan
Cardon, Robert Philip c-So.....	Logan	Comish, Reata SS.....	Franklin, Idaho
Cardon, Sybil SS.....	Logan	Cooley, Cecil a-F.....	Logan
Cardon, Thomas B. c-So.....	Logan	Cooley, Chas. B. SS.....	Grantsville
Carlisle, Edwin W. c-J.....	Logan	Cooley, Hazen SS.....	Logan
Carlisle, Martha as-F.....	Logan	Cooley, LaVell Irvin as-G.....	Logan
Carlson, Alvin c-So.....	Logan	Cooley, Marguerite ed-F.....	Logan
Carlson, Conrad S. ed-G.....	Logan	Cook, Anne S. SS.....	Chicago
Carlson, Earl J. as-F.....	Logan	Cook, Louise ho-F.....	Springville
Carlson, LaRue ed-So.....	Logan	Cook, Raydolph Day a-J.....	Layton
Carlson, Rada SS.....	Logan	Corbridge, Kenneth L. c-F.....	Logan
Carter, Helen ed-F.....	Ogden	Cordner, Stephen e-F.....	Provo
Cartwright, Audra ed-F.....	Beaver	Corlett, Vaughn ho-F.....	Provo
Carver, Vesse R. SS.....	Wellsville	Costley, Margaret ed-J.....	St. Anthony, Idaho
Case, Helena B. SS.....	Ogden	Cowan, Rulon W. as-So.....	Nephi
Cazier, Frank William e-F.....	Morgan	Cowley, Charles Gloyd as-S.....	Salt Lake City
Chadoz, Mary ed-F.....	Tremonton	Cowley, Joseph F. c-So.....	Logan
Chadwick, Walker e-V.....	Morgan	Cox, Donnetta ho-S.....	Manti
Champ, Frances Winton as-G.....	Logan	Cox, Orlis C. SS.....	Elk City, Kansas
Cheney, Gretta c-So.....	Laketown	Crandall, Paul C. c-F.....	Driggs, Idaho
Child, Donna SS.....	Ogden	Crane, Alta as-J.....	Riverton
Childs, Myron a-So.....	Springville	Crane, Olive ho-S-SS.....	Riverton
Chipman, Albert L. C-F.....	Kaysville	Cranney, A. G. c-S.....	Logan
Chipman, Alva S. C-F.....	Logan	Cranney, Monroe C. as-S.....	Logan
Chipman, La Ree SS.....	American Fork	Cranney, Ruth ed-So.....	Logan
Christensen, Andrew Lee a-G.....	Salt Lake City	Crapo, Lloyd H. e-F.....	Roosevelt
Christensen, Chester F. c-J.....	Brigham	Crawford, Amy SS.....	Columbia
Christensen, Dean H. a-So.....	Brigham	Cressall, Jessie as-So.....	Logan
Christensen, Dorothea ed-F.....	Tremonton	Crockett, Evelyn G. ho-S.....	Kaysville
Christensen, Ivan a-So-SS.....	Ephraim	Crockett, Ona SS.....	Preston, Idaho
Christensen, Leatha SS.....	Shelley, Idaho	Croft, Gordon SS.....	Ogden
Christensen, Leon N. a-So.....	Brigham	Croft, Jack SS.....	Ogden
Christensen, Madeline ed-So.....	Richmond	Crook, Grace ho-J.....	Heber
Christensen, Merlin G. SS.....	Mt. Pleasant	Crook, Royal D. a-So-SS.....	Heber
Christensen, Norman ed-G.....	Logan	Crookston, Grenvill e-V.....	Newton
Christensen, Nyles c-So.....	Richmond	Crookston, R. Burns ed-V-SS.....	Logan
Christensen, John F. as-F.....	Wellsville	Crosgrave, Nell SS.....	Salt Lake City
Christiansen, Katherine ho-J.....	Logan	Foxley, William E. as-F.....	Logan
Christiansen, Milton A. c-So.....	Mayfield	Frandsen, Myrtle as-V.....	Mt. Pleasant
Christianson, Roy M. a-S.....	Logan	Frankhauser, Fred c-J.....	Logan
Christopherson, John W. c-F.....	Salt Lake City	Francis, Lester Samuel e-F.....	Morgan
Church, Vernon SS.....	St. George	Frederick, Hilda ho-J.....	Logan
Clark, Arthur O. SS.....	Mt. Pleasant	Fredrickson, Carmen D. SS.....	Logan
Clark, Bertha as-F-SS.....	Logan	Fredrickson, Deverial J. a-F.....	Vernon
Clark, Cyrus Lowell as-S.....	Brigham	Fredrickson, Earl A. c-S-SS.....	Avon
Clark, Glenn C. c-So.....	Logan	Fredrickson, Greta ed-So.....	Logan
Clark, Gwyn as-S.....	Logan	Freestone, J. Blaine a-F.....	Mesa, Arizona
Clark, Ira a-F.....	Coalville	Frost, Donald a-F.....	Coalville
Clark, Lealand a-J.....	Logan	Frost, Ivan Peter a-So.....	Riverton
Clark, Leroy B. SS.....	Blackfoot, Ida.	Frost, James A. a-G.....	Ephraim
Clark, Myral G. SS.....	Logan	Froyd, Beryl as-S.....	Cedar City
Clark, Reuben e-J.....	Coalville	Fuhriman, Delbert c-F.....	Providence
Clark, Wilford as-S.....	Logan	Fuhriman, Reldo ed-So.....	Providence
Clawson, Alden Leo e-So.....	Providence	Fulkerson, Vincent SS.....	Fallon, Nevada
Clawson, Hilvia c-F.....	Hyrum	Funk, Lillian SS.....	Preston, Nevada
Clayson, Zina SS.....	American Fork	Furr, Carl J. as-J.....	Salt Lake City
Clegg, Camille ed-F.....	Heber	Gaddie, Hunter e-F.....	Garland
Clemens, Alice SS.....	Maryville, Tenn.	Galbraith, C. Layton SS.....	Ogden
Cleveland, George W. a-F.....	Logan	Galloway, Fontella as-S.....	Roosevelt
Cliff, Edward a-F.....	Heber	Gamette, Maurine R. c-F.....	Salt Lake City
Clitheroe, Lena SS.....	Mt. Pleasant	Gardner, Alma H. e-So.....	Logan
Cole, Amos. Glenn as-S.....	Nephi	Gardner, Clark A. e-So.....	Sandy
Cole, Ray Everett e-V.....	Logan	Gardner, Eldon John as-F.....	Logan
		Gardner, Leonora SS.....	Lund, Nevada

Gardner, Luree Snow ho-J.....Cedar City
 Gardner, Melvin Albert a-So.....Logan
 Gardner, Milford I. e-F.....Logan
 Gardner, Tillie SS.....Lund, Nevada
 Garner, Rosabelle ho-So.....Ogden
 Garrett, Wanda as-J.....Nephi
 Geddes, David Roy as-F.....Logan
 Geddes, Lenald SS.....Logan
 Geddes, Lyle ed-F.....Logan
 Geddes, Willard c-J.....Randolph
 George, Harriet SS.....Minneapolis, Minn.
 Genner, Kenneth e-F.....Deweyville
 Gessel, Veda c-F.....Providence
 Gibbons, Lydia ho-J.....Garden City
 Gibbons, Robert G. ed-S-SS.....Logan
 Gibbs, Lynn ed-F.....Ogden
 Gibby, Adrain SS.....Roy
 Gibby, Thomas G. SS.....Roy
 Gibson, Ada SS.....Nephi
 Gibson, C. L. c-So.....Logan
 Gillespie, Daniel c-F.....Tooele
 Gills, Edward W. SS.....Sandy
 Godfrey, Agnes ed-F.....Clarkston
 Goodey, Tellma ed-F.....Clarkston
 Goodrich, A. M. SS.....Vernal
 Gordon, Sam H. a-F.....Smithfield
 Gourley, Roland M. ed-F.....Bear River
 Graff, Elgin as-F.....Santa Clara
 Graff, Oliver as-S-SS.....Santa Clara
 Greaves, Cyrus W. c-J.....Logan
 Greaves, Ethelyn Oliver as-G.....Logan
 Greaves, Florence as-S-SS.....Logan
 Greaves, Joseph Dudley as-S-SS.....Logan
 Greaves, Ora G. as-F.....Logan
 Green, Emma ho-S.....Tooele
 Green, Gladys as-F.....Tooele
 Green, Harold e-S-SS.....Wellsville
 Green, Nathan W. ed-S-SS.....Logan
 Green, Thomas SS.....Logan
 Greene, Vira ed-So.....Smithfield
 Greenhalgh, Alma E. SS.....Logan
 Greenhalgh, Rolla ed-F.....Brigham
 Greenwood, Paul E. a-F.....Sandy
 Gregory, Robert G. e-So.....Logan
 Griffin, Charles M. c-J.....Logan
 Griffin, Herbert Thomas as-So.....Ogden
 Griffin, Mina ho-So.....Newton
 Griffith, Melvin R. ed-F.....Franklin, Idaho
 Griffiths, Mary as-So.....Smithfield
 Groebli, Anna c-So.....Logan
 Groesbeck, Earl SS.....Springville
 Groesbeck, May Cowley ho-S-SS.....Logan
 Gudmundson, Clair as-F.....Springville
 Gunderson, Arden B. a-F.....Salt Lake City
 Gunderson, B. J. SS.....Dillon, Montana
 Gunderson, J. D. SS.....Mt. Pleasant
 Gunderson, V. H. SS.....Mt. Pleasant
 Gunnell, Francis H. as-F.....Wellsville
 Gunnell, Leslie K. a-F.....Wellsville
 Gunnell, Merrill H. as-So.....Wellsville
 Gunnell, Merrill P. e-F.....Logan
 Gunnell, Waldon as-F.....Wellsville
 Guymon, Evert Lee a-J.....Huntington
 Hacking, Joseph Ferron a-So.....Vernal
 Haddock, Jay L. SS.....Bloomington

Haight, David B. c-J.....Salt Lake City
 Hale, D. H. e-V.....Logan
 Hale, Hattie Lois ed-So.....Logan
 Hale, Leah ed-So-SS.....Smithfield
 Hale, Sumner SS.....Logan
 Hale, Varion E. SS.....Ogden
 Hale, Wilford G. c-F.....Logan
 Hall, Ann ed-So.....Preston, Idaho
 Halverson, Leon c-So.....Logan
 Hammerly, Fred as-G.....Monticello, Wis.
 Hammond, Darvel T. c-S.....Providence
 Hammond, Diantha SS.....Providence
 Hammond, Grant P. a-So.....Logan
 Hammond, Marjorie ed-F.....Providence
 Hammond, W. W. as-J.....Providence
 Hancey, Carlos c-S.....Hyde Park
 Hanks, Ellen ho-J.....Tooele
 Hansen, Alta M. ed-F.....Richfield
 Hansen, Bernice ed-So.....Richfield
 Hansen, Bessie ho-So.....Logan
 Hansen, C. J. SS.....Logan
 Hansen, Colline as-F.....Collinston
 Hansen, Eldon J. as-So.....Logan
 Hansen, Eloise SS.....Mt. Pleasant
 Hansen, Geraldine c-F.....Jackson, Wyo.
 Hansen, Gwendolyn as-J.....Providence
 Hansen, Helen R. C-F.....Logan
 Hansen, James Elwood as-So.....Providence
 Hansen, J. Deloy a-So.....Richfield
 Hansen, Leora Mary ed-So.....Brigham
 Hansen, LeRoy c-F.....Logan
 Hansen, Lorenzo e-F.....Logan
 Hanson, Mae ed-F.....Cornish
 Hansen, Marguerite ho-So.....Salt Lake City
 Hansen, Mrs. Melvin E. as-V.....Logan
 Hansen, Othello T. as-J.....Collinston
 Hansen, Ramona SS.....Salt Lake City
 Hansen, Roma ed-F.....Brigham
 Hansen, Rulon e-F.....Garland
 Hansen, Ruth ed-F.....Logan
 Hansen, Wilford L. a-So.....Richfield
 Hansen, Wynona ed-So.....Providence
 Harding, Charles L. c-S.....Payson
 Harding, George D. SS.....Logan
 Harding, Margaret as-So.....Logan
 Harding, Paul a-G.....Salt Lake City
 Harris, Albert e-F.....Richmond
 Harris, Alvin SS.....Portage
 Harris, Evan as-G.....Richmond
 Harris, Lloyd as-So.....Tremonton
 Harris, L. Louis SS.....Vigo, Indiana
 Harris, Luella SS.....Tremonton
 Harris, Luella Mae ed-So.....Ogden
 Harris, Lynden a-F.....Lewiston
 Harris, Vernal J. as-S.....Tremonton
 Harrison, Dorothy as-F.....Logan
 Harrison, J. William SS.....St. George
 Harrison, Zina SS.....Lund, Nevada
 Hart, Adina as-F.....Preston, Idaho
 Harston, Fay ho-So.....Logan
 Hart, Flora ed-F.....Bloomington, Idaho
 Hart, Ruth as-J.....Logan
 Haslam, George Smith c-J.....Logan
 Hastings, Mildred SS.....Greenriver
 Hatch, Georgiana SS.....Chicago, Ill.

Hatch, Thora L. ed-F	Logan	Howell, Ferne ed-F	Clifton, Idaho
Hawkes, Earl c-J	Logan	Howells, J. S. SS	Paradise
Hawkes, Irving c-So	Logan	Hoyt, Emma ho-F	Marion
Hawkes, Selma ed-So	Logan	Hoyt, Wilmer e-So	Marion
Hawkins, John as-F	Logan	Huff, William Lee c-V	Logan
Hawkins, Mabel ed-S	Logan	Huffaker, Melvina as-So	Logan
Hawkins, Percy B. c-F	Logan	Hughes, Durrell as-So	Mendon
Hawley, James Warren e-S	Richfield	Hughes, H. G. SS	Mendon
Hayball, Edith ho-G	Logan	Hughes, Jonathon M. SS	Farmington
Hayward, Josef Clare as-F	Logan	Hull, Wealthy SS	Logan
Hayward, William Budge c-So	Logan	Hulme, Ben F. a-S-SS	Logan
Hayward, Willis Howard as-So	Logan	Hulme, Claire L. as-F	Logan
Heaps, Vella ed-F	Smithfield	Hulme, Louise K. SS	Logan
Heep, Inez as-V	Logan	Humpherys, LeGrande R. as-G-SS	Logan
Heese, Mary M. as-So	Logan	Humphreys, Russell L. c-F	Logan
Heinrich, Mildred L. ed-F	Smithfield	Hunsaker, Milton L. ed-F	Honeyville
Henderson, George R. a-So	Joseph	Hunsaker, Oral e-F	Honeyville
Henderson, Mary as-J	Logan	Hunsaker, William E. ed-F	Honeyville
Henderson, Wanda SS	Logan	Hunt, Josephine SS	Upalco
Henderson, Willa as-So	Logan	Hunter, Alfred a-So	Lewisville, Idaho
Hendricks, Caroline M. c-G	Logan	Hunter, Webster B. as-F	Trenton
Hendricks, Erma ed-So	Richmond	Huntington, Lucille ed-So	Beaver
Heninger, Gene c-F	Logan	Hurren, David G. a-G	Hyde Park
Henrie, DuWayne Lee a-F	Panguitch	Hurren, Eulalia ho-S	Hyde Park
Henrie, Marelda ed-F	Imbler, Oregon	Hulet, David W. SS	Driggs, Idaho
Henrie, Wayne SS	Logan	Hutchings, Price M. ed-S	Ririe, Idaho
Hepworth, LaVerne ed-F	Grover, Wyo.	Hutchinson, Jesse ed-J	Logan
Heslington, David C. SS	Milford	Hutchinson, Olive L. SS	Moline, Ill.
Hess, Alvin ed-S	Fielding	Hyde, Helen R. as-So	Kaysville
Hess, Cyril as-F	Brigham	Hyde, Irma ed-So	Hyde Park
Hesser, Gladys Louise as-S	Salt Lake City	Hyde, R. Homer SS	Hyde Park
Heywood, David E. a-G-SS	Logan	Hymas, Charles A. a-S-SS	Logan
Hichman, Juanita SS	Logan	Irwin, Grace SS	Laketown
Hickman, Thorval as-So	Logan	Israelson, Alice ho-F	Hyrum
Hill, Chloeteal Mary SS	Smoot, Wyo.	Israelson, Eilert K. a-V	Hyrum
Hill, Gladys SS	Wellsville	Israelson, Lettie ho-F	Logan
Hill, Reta ho-J	Logan	Israelson, Vernon L. c-So-SS	Hyrum
Hillstrom, Mae ed-F	Brigham	Iverson, Bessie L. SS	Provo
Hinckley, Mary ed-F	Brigham	Iverson, Glenroy a-F	Pleasant Grove
Hinckley, S. Jesse SS	Rexburg, Idaho	Iverson, Iver E. SS	Ephraim
Hirst, Alta ho-S-SS	Logan	Jackson, Elgin c-So	Logan
Hirst, Hazel ho-F	Logan	Jackson, Leslie c-F	Tooele
Hobbs, Gladys M. as-F	Logan	Jackson, Verna ed-S-SS	Logan
Hobbs, Leone ed-So	Logan	Jacobsen, Marvel c-V	Logan
Hodges, Evelyn C. as-J	Logan	Jacques, Ruth ed-F	Logan
Hodges, Lamont E. c-So	Garden City	Jadot Renee Marie as-So	Kemmerer, Wyo.
Hogan, Aminta as-F	Lewiston	Jameson, Alexander a-F	LaSal
Hogan, Lillian ed-So	Lewiston	Janes, Melvin J. ed-F	Providence
Hogan, Muriel ed-F	Lewiston	Janes, Ray L. ed-F	Providence
Hogenson, Helen as-So-SS	Logan	Jarvis, Ella M. ed-F	Logan
Holland, Wanda ed-So	Brigham	Jarvis, Mae ed-F	Logan
Holley, Harold as-F	Springville	Jeffs, Armond SS	Logan
Hollingshead, Golden SS	Minersville	Jenkins, Edyth SS	Freedom, Wyo.
Hollingshead, Lorna Lucile SS	Claude, Texas	Jenkins, Eva ho-So	Logan
Holmes, J. Mark e-S	Logan	Jenkins, J. D. as-F	Logan
Holmgren, DeEsta ed-So	Tremonton	Jenkins, Oriel ed-F	Newton
Holmgren, Ethel ho-J	Tremonton	Jennings, Lydia as-F	Logan
Holmgren, Winifred as-V	Tremonton	Jensen, Dewane a-J	Hyrum
Holton, Parley P. as-J	Brigham	Jensen, Edmond C. as-So	Richmond
Horne, Aaron SS	Richfield	Jensen, Edmund J. as-So	Logan
Horsley, Ernest M. a-So	Brigham	Jensen, Evan R. a-F	Richfield
Horsley, Gladys SS	Soda Springs, Idaho	Jensen, Flora c-F	Hyrum
Howa, Sam A. a-V	Provo	Jensen, Ludella ed-F	Smithfield
		Jensen, Mark P. e-F	Logan

Jensen, Norman J. c-J.....	Mantua	Kerr, Louise ed-So.....	Logan
Jensen, Phebe SS.....	Hyrum	Keveren, Kinsey as-S.....	Logan
Jensen, Una as-F.....	Smithfield	Keveren, Phyllis as-V.....	River Heights
Jensen, W. C. SS.....	Metropolis, Nevada	Kewley, Ray M. SS.....	Santa Monica, Calif.
Jensen, Weldon P. a-F.....	Brigham	Kilburn, A. Golden SS.....	Morgan
Jeppsen, Elmer as-J.....	Mantua	Kimball, E. R. SS.....	Draper
Jeppson, Vera SS.....	Brigham	King, Mildred ed-F.....	North Logan
Jessop, Howard as-F.....	Logan	King, Ronald e-F.....	Logan
Jessop, Sylmar G. as-So.....	Millville	Kingford, Ephraim O. SS.....	Grace, Idaho
Jex, Ida SS.....	Spanish Fork	Kirby, Harold J. as-J.....	Hyde Park
Johansen, Tillie B.SS.....	Mt. Pleasant	Kirby, Owen A. a-S.....	Hyde Park
Johns, Vernald W. as-S.....	Ogden	Kirk, Harvey c-G-SS.....	Logan
Johnson, A. Evart SS.....	Beaver	Knight, Lester P. as-So.....	Logan
Johnson, Bernice ed-F.....	Logan	Knight, Roma V. as-S.....	Ogden
Johnson, Charles R. as-So.....	Logan	Kofoed, Harold A. c-F.....	Logan
Johnson, Chester P. e-V.....	Laketown	Koford, Glen ed-F.....	Brigham
Johnson, Dallas as-So.....	Logan	Kolts, Edward H. e-F.....	Eureka
Johnson, Earl Moses e-V.....	Logan	Korth, Ethel ed-F.....	Garland
Johnson, Fern SS.....	Evanston, Wyo.	Kotter, Virginia c-F.....	Brigham
Johnson, Keith L. e-J.....	Logan	Kunz, Howard c-F.....	Logan
Johnson, Leo e-F.....	Laketown	Kunz, Lucile SS.....	Logan
Johnson, Lucile ho-So.....	Logan	Kunz, Zina as-F.....	Logan
Johnson, Lund c-J.....	Logan	Lamb, Delbert M. as-S.....	Hyde Park
Johnson, Oswald L. e-S-SS.....	Pleasant Grove	Larsen, Arta J. ho-So.....	Newton
Johnson, Phyllis E. as-S-SS.....	Laketown	Larson, Arvil J. ed-S.....	Sandy
Johnson, Reha ho-F.....	Pleasant Grove	Larsen, Blanche ho-So.....	Mt. Pleasant
Johnson, Roda V. SS.....	Logan	Larson, Dora ed-So.....	Logan
Johnson, Rolland as-F.....	Lewiston	Larson, George as-J.....	Mayfield
Johnson, Thelma ho-F.....	Richmond	Larson, Jessie ed-So.....	Logan
Johnson, Thelma D. ho-J.....	Logan	Larsen, L. H. SS.....	Preston, Idaho
Johnson, Victor Merrill c-S.....	Richmond	Larson, Liddell M. as-F.....	Logan
Johnson, Virginia as-F.....	Laketown	Larsen, Mainard as-S.....	Smithfield
Jorgensen, Melvin as-J.....	Leota	Larsen, Myrtle SS.....	Smithfield
Jones, Clarence e-F.....	Ogden	Larsen, Paul B. as-So.....	Logan
Jones, Daniel O. c-S.....	Logan	Larsen, Raymond P. as-F.....	Mayfield
Jones, E. Ronald as-F.....	Logan	Larson, Sterling as-So.....	Richmond
Jones, Etta SS.....	Provo	Larsen, Vernon J. e-S.....	Newton
Jones, Evelyn as-J.....	Spanish Fork	Larson, Vernon as-J.....	Smithfield
Jones, Ferris H. c-F.....	Wellsville	Larson, Vincent as-J.....	Smithfield
Jones, Florence E. SS.....	Ogden	Larson, Willard Abner c-S.....	Logan
Jones, Henry D. a-J.....	Logan	Last, Charles H. e-S.....	Garland
Jones, Irene SS.....	Logan	Laub, Fern E. ed-F.....	Fielding
Jones, Jennie c-F.....	Spanish Fork	Lauritzen, Arden e-F.....	Gooding, Idaho
Jones, Lyle as-F.....	Lewiston	Lauritzen, Cyril W. a-So.....	Moroni
Jones, Martha L. ed-F.....	Newton	Lavik, Rudolf H. SS.....	Milnor, N. Dakota
Jones, W. Leroy SS.....	Fillmore	Law, Helen L. c-F.....	Logan
Judah, George A. as-So.....	Logan	Law, Reuben D. as-S-SS.....	Tremonton
Judd, B. Ira a-S-SS.....	Morgan	Law, Rozella ed-So.....	Logan
Judkins, Leonard N. as-J.....	Ogden	LaWall, Clarence J. e-F.....	Logan
Julander, Odell a-F.....	Monroe	Layton, Arthur F. c-J.....	Kaysville
Kapple, C. D. SS.....	Ogden	Layton, Elizabeth S. ho-So.....	Layton
Kearl, Lowell as-V.....	Laketown	Layton, Myron M. c-F.....	Kaysville
Kearl, Delmas R. e-F.....	Laketown	Leatham, Marguerite E. ed-So.....	Ophir
Kearl, Vera Lee c-G.....	Laketown	Leatham, Ruby ho-J.....	Wellsville
Keetch, Rulon P. ed-S-SS.....	Logan	Ledingham, C. B. SS.....	Bountiful
Keetch, Russell R. a-J.....	Pleasant Grove	Lee, Eva SS.....	Hyde Park
Keller, Chrystal SS.....	Mantua	Lee, Inez ed-So.....	Hyde Park
Keller, Delilah ho-F.....	Logan	Lee, Rozanna ed-F.....	Brigham
Kelly, Thomas e-V.....	Salt Lake City	Leigh, LaVera ho-J.....	Cedar City
Keller, Wesley a-J.....	Logan	Leishman, Ernest P. a-F.....	Wellsville
Kemp, Harry e-F.....	North Logan	Leishman, Robert B. c-G.....	Wellsville
Kendall, Lula ed-F.....	Logan	Leishman, Seth P. c-F.....	Wellsville
Kennard, Frank SS.....	Lovell, Wyo.	Lenkersdorfer, Clara ho-So.....	Logan
Kennard, Gordon K. c-So.....	Logan	Lenkersdorfer, Lelah O. ho-So.....	Logan
Kennard, John G. a-G.....	Logan	Lenkersdorfer, Pernecy D. ho-J.....	Logan

Leonard, Eugene O. a-G.....	Pocatello, Ida.	Maughan, Lucile ho-F.....	Lava Hot Springs, Idaho
Lewis, Inez. W. SS.....	Logan	Maughan, Reese SS.....	Wellsville
Liddle, Clarice c-F.....	Logan	Maughan, Sarah SS.....	Logan
Liddle, Wallace J. e-S.....	Logan	May, Clauria M. ed-J.....	Logan
Lillywhite, Alden c-S-SS.....	Brigham	Maycock, Miriam as-S-SS.....	Logan
Limb, Myrle ed-F.....	Garland	McAlister, Dean F. a-F.....	Logan
Lindblad, Victor L. as-S.....	Logan	McAlister, Dorothy c-F.....	Logan
Lindquist, Irvin O. as-So.....	Logan	McAlister, Helene C. as-J.....	Logan
Lindquist, Kenneth O. c-J.....	Logan	McAllister, John H. a-F.....	Kanab
Lindquist, Norene M. ed-F.....	Ogden	McBeth, Ned as-F.....	Payson
Linford, Henry B. as-F.....	Logan	McBride, C. D. SS.....	Logan
Linford, Howard ed-S.....	Kaysville	McBride, Jesse B. e-F.....	Burley, Idaho
Linford, James W. e-Un-SS.....	Logan	McBride, Lucile SS.....	Hyrum
Linford, Leo H. as-J.....	Logan	McClellan, Maude ho-So.....	Logan
Linford, Zilla, ho-J-SS.....	Logan	McCloy, Lenore SS.....	Sandy
Littlefield, Roy A. ed-J.....	Tropic	McCune, Herman W. c-F.....	Nephi
Littlefield, Versa J. ho-J.....	Ogden	McCune, John G. c-S.....	Ogden
Lloyd, Elmer H. as-V.....	Logan	McElreath, Marie SS.....	Chickasha, Okla.
Lloyd, Erma as-J.....	Salt Lake City	McGregor, Charles P. ed-G.....	Logan
Lloyd, Lewis H. c-So.....	Logan	McIntyre, R. A. SS.....	Salt Lake City
Lofthouse, Charles A. a-F.....	Willard	McKee, Elsie ed-F.....	Vernal
Loosle, John K. a-F.....	Clarkston	McKell, R. D. SS.....	Payson
Loose, Joseph B. c-So.....	Brigham	McLaws, Gene as-V.....	Tooele
Love, R. Vernon SS.....	Kaysville	McMullen, Thomas SS.....	Salt Lake City
Loveless, Florence P. ho-J.....	Logan	McMurdie, Mary SS.....	Logan
Lowe, Eva L. as-F-SS.....	Ogden	McNeil, Marion J. ho-F.....	Logan
Lowe, Fred C. e-F.....	Pleasant Grove	McNeil, Millie as-F.....	Logan
Lowe, F. S. SS.....	Reno, Nevada	Mead, Pauline SS.....	Aztec, New Mexico
Lund, Alden T. a-F.....	Ephraim	Mecham, Ona c-F.....	Logan
Lundquist, Oscar c-F.....	Logan	Meldrum, Albert SS.....	Tremonton
Luffkin, Jane SS.....	Nephi	Merkley, A. G. as-F.....	Vernal
Lunt, Aiden ed-So.....	Nephi	Merrill, Anna S. as-F.....	Richmond
Lunt, Lois ed-F.....	Nephi	Merrill, G. W. SS.....	Preston, Idaho
Madsen, Bertrude ho-F.....	Manti	Merrill, Jean as-So.....	Logan
Madsen, Edna C. ho-S.....	Manti	Merrill, Marriner c-J.....	Richmond
Madsen, Grace SS.....	Fountain Green	Merrill, Marriner W. as-F.....	Logan
Madsen, Lola ed-So.....	Brigham	Merrill, Ray S. SS.....	Richmond
Madsen, Louis L. a-F.....	Salt Lake City	Merrill, Thais A. as-F.....	Richmond
Magleby, Russell H. SS.....	Monroe	Meyers, Ione ed-F.....	Brigham
Malmgren, Edwin L. e-F.....	Centerfield	Miller, Emma ed-So.....	Farmington
Malmberg, Florence SS.....	Logan	Miller, Harold as-F.....	Heber
Malmberg, Joseph SS.....	Clarkston	Miller, Horace c-J.....	Panguitch
Malmberg, Wesley G. c-F.....	Logan	Miller, Orrin a-F.....	Tooele
Marler, Otis E. as-S.....	Logan	Milligan, Cleve H. e-F.....	Smithfield
Martindale, Addington A. ed-S.....	Logan	Mills, Helen SS.....	Ogden
Martineau, George A. c-So.....	Logan	Miner, Curtis L. as-V.....	Logan
Marsh, Gweneth ed-F.....	Evanston, Wyo.	Miner, F. Edgar SS.....	Mesquite, Nevada
Marwedel, Magdalene A. as-F.....	Logan	Mitton, Mary as-So.....	Logan
Mason, Herschel E. as-F.....	Logan	Mitton, Ruby as-F.....	Logan
Mason, Ivie Rae as-So.....	Willard	Monson, Irma ed-F.....	Logan
Mason, Marjorie M. as-J.....	River Heights	Monson, June as-So.....	St. Charles, Idaho
Mathews, Conan E. as-F.....	Providence	Monson, Olof W. e-G.....	Logan
Mathews, Phyllis S. as-So-SS.....	Logan	Monson, W. Russell a-So.....	Hyrum
Mathis, Lewis SS.....	Lund, Nevada	Montague, L. A. SS.....	Las Vegas, Nevada
Matley, Mark A. SS.....	Spanish Fork	Montgomery, Althera G. ed-F.....	Ogden
Mattsson, Mary M. as-F.....	Salina	Montgomery, Veone N. ho-F.....	Ogden
Maughan, Alton as-S.....	Logan	Moore, Mary C. ho-F.....	Ogden
Maughan, Carlyle G. c-So.....	Wellsville	Morgan, Alvin W. c-S.....	Logan
Maughan, Cyril P. as-F.....	Wellsville	Morgan, Frank c-J.....	Nephi
Maughan, Elvin F. e-S.....	Logan	Morgan, George C. a-F.....	Logan
Maughan, Ernest SS.....	Wellsville	Morgan, Harriet ho-G-SS.....	Spanish Fork
Maughan, Irma Virginia c-So.....	Logan	Morgan, Lucille as-J-SS.....	Logan
Maughan, J. Howard SS.....	Cedar City	Morgan, Myra SS.....	Chicago, Ill.
Maughan, Jos. S. SS.....	Logan	Morrell, Eugene L. SS.....	Salt Lake City

Morrell, Hattie SS.....	Hyde Park	Olsen, Charles G. c-S.....	Logan
Morrell, Lillian ho-So.....	Hyde Park	Olsen, Dewey S. SS.....	Preston, Idaho
Morrell, Lyman D. c-S.....	Hyde Park	Olsen, Eric H. e-F.....	Hyrum
Morrell, Oreta SS.....	Logan	Olsen, Hilda SS.....	Hyrum
Morrell, William E. as-F.....	Logan	Olsen, Howard SS.....	Canton, Minn.
Morrison, Luey ho-F.....	Logan	Olsen, John Jr. e-V.....	Brigham
Morrow, Dewey SS.....	San Diego, Calif.	Olsen, LeGrand G. e-F.....	Logan
Mortensen, Doris SS.....	Brigham	Olsen, Leland, M. as-S-SS.....	Logan
Murdoch, Ferl ho-V.....	Smithfield	Olsen, Lucille as-S-SS.....	Logan
Mortensen, Pearl ho-V.....	Tremonton	Olsen, Melvin A. SS.....	Carey, Idaho
Morton, Jack C. ed-J.....	Logan	Olsen, Nolan P. as-J.....	Logan
Moser, Mrs. Faye Yeaman as-S-SS.....	Logan	Olsen, Owen J. e-So.....	Logan
Muir, Maida as-J-SS.....	Mendon	Olson, Ruth E. ho-F.....	Logan
Murdock, D. T. SS.....	Clearfield	Olson, Veda SS.....	Logan
Murdock, Wayne as-F.....	Heber	Olson, Violet ed-F.....	Logan
Murdock, Neil J. as-So.....	Heber	Olson, Wesley L. as-F.....	Logan
Murphy, Irene SS.....	Medicine Lake, Mont.	Orme, Leona c-F.....	Logan
Murphy, Ruth ho-F.....	Eureka	Orme, Lillian ho-J.....	Tooele
Murray, David P. a-G.....	Logan	Orme, Reed S. c-F.....	Logan
Murray, Evan B. SS.....	Wellsville	Oswald, McKinley G. SS.....	Salt Lake City
Murray, Fred S. a-F.....	Springville	Owen, E. B. as-So.....	Logan
Myers, Levi ed-F.....	Panguitch	Owen, J. Walker as-J.....	Logan
Naef, Gladys SS.....	Sugar, Idaho	Owen, Luella B. as-F.....	Logan
Nebeker, Ned B. a-So.....	Manila	Oyler, Ruth ho-F.....	Garland
Neddo, I. James a-V.....	Providence	Pace, John M. a-S.....	Price
Neilson, George D. c-S.....	Logan	Packer, Floyd a-F.....	Logan
Neilson, Rulon K. c-F.....	Logan	Packer, Lee P. c-J.....	Logan
Nelson, Aldon L. a-V.....	Santaquin	Paewai, Niki a-So-SS.....	Logan
Nelson, Alfred N. a-So.....	Richmond	Page, Joseph, D. c-F.....	Logan
Nelson, Almada G. SS.....	Preston, Idaho	Palfreyman, Ione SS.....	Springville
Nelson, Anna as-So.....	Logan	Palmer, E. Darrell c-G.....	North Logan
Nelson, Bernard e-So.....	Richmond	Palmer, Evelyn A. ed-F.....	Ogden
Nelson, Don G. a-F.....	Logan	Palmer, Revier N. ed-J-SS.....	Logan
Nelson, Geneve C. ed-F.....	Salt Lake City	Parker, Alice SS.....	American Fork
Nelson, Howard SS.....	Weston, Idaho	Parker, Edna W. SS.....	Wellsville
Nelson, Jesse G. as-So.....	Logan	Parker, Lorenzo SS.....	Hurricane
Nelson, Norma ed-So.....	Brigham	Parker, Patricia as-So.....	Logan
Nelson, Rasmus K. a-F.....	Logan	Parker, William SS.....	Wellsville
Nelson, Rebecca as-J.....	Arimo, Idaho	Parkes, Itha ed-So.....	Nephi
Nelson, Scott G. as-S.....	Logan	Parkinson, Ernest W. as-So.....	Wellsville
Nelson, Vonda ed-So.....	Logan	Parkinson, Evelyn ed-F.....	Logan
Nelson, Wilmar J. as-J.....	Logan	Parkinson, LaRue H. as-J.....	Logan
Nelson, Zersia Mae SS.....	Preston, Idaho	Parkinson, Paul E. as-So.....	Logan
Neuenschwander, Esther SS.....	Bedford, Wyo.	Parkinson, Ruth as-F.....	Logan
Newey, Aaron SS.....	Logan	Parry, Montella ho-So.....	Ogden
Nielsen, Aileen ho-V.....	Hyrum	Partington, William a-So.....	Logan
Nielsen, Cantril ed-S.....	Hyrum	Passey, Cleone L. ed-J.....	Logan
Nielsen, Cleo c-F.....	Logan	Pattle, Mary SS.....	Chicago, Ill.
Nielsen, Ellis a-V.....	Hyrum	Patterson, J. Alex SS.....	Hooper
Nielsen, Emma ho-So.....	Hyrum	Paulsen, Joseph SS.....	Eureka
Nielsen, Florence J. as-G.....	Logan	Pearse, Charlotte as-F-SS.....	Brigham
Nielsen, Ottis as-F.....	Cache Junction	Pearse, David R. SS.....	Beaver
Nielsen, Ruby V. as-F.....	Logan	Pearse, Mary R. ed-J.....	Brigham
Nilsson, Clifford W. as-So.....	Heber	Pearse, Richard A. as-So.....	Brigham
Nixon, William W. SS.....	Rupert, Idaho	Pearson, Anne as-So.....	Brigham
Noall, Albert E. SS.....	Salt Lake City	Pearson, Bennie c-F.....	Salt Lake City
Noble, Edith L. SS.....	Logan	Pearson, Margaret as-So.....	Brigham
North, Vera A. G-SS.....	Salt Lake City	Peart, ArDella B. ed-F.....	North Logan
Nowell, R. a-S.....	Murray	Peart, Ina E. ed-F.....	Richmond
Nye, George C. SS.....	Garland	Peck, Trilva ho-So.....	Garland
Oldham, Delia SS.....	Logan	Pedersen, Edith F. as-J.....	Logan
Oldham, Edward P. SS.....	Paradise	Pedersen, Jean c-F.....	Logan
Oldham, Mabel SS.....	Logan	Pedersen, Thelma ed-So.....	Logan
Olesen, Edna L. ho-F.....	Logan	Pendlebury, Margaret A. c-F.....	Logan
Olson, Albert A. as-F.....	Logan	Pendleton, L. G. c-F.....	Logan

Perkes, Orson ed-So.....	Hyde Park	Rex, A. Eldon SS.....	Logan
Perkins, Mary SS.....	Wellsville	Reynolds, Frances N. as-F.....	Logan
Peterson, Bessie ed-F.....	Smithfield	Rice, Jane SS.....	Logan
Peterson, Constance c-J.....	Hyrum	Rich, Daniel C. SS.....	Paris, Idaho
Peterson, Elwood L. a-F.....	Logan	Rich, Editha E. as-V.....	Logan
Petersen, Francis M. a-F.....	Newton	Rich, Myrene SS.....	Ogden
Petersen, Harold M. a-G.....	Logan	Rich, Virginia L. ed-S.....	Logan
Peterson, Harriet A. ho-J.....	Taylor	Richards, Cleopha as-So.....	Malad
Peterson, Howard SS.....	Logan	Richards, Franklin D. e-F.....	Logan
Petersen, Howard E. a-F.....	Brigham	Richards, Harry S. SS.....	Pleasant Grove
Petersen, Irene SS.....	Logan	Richards, Pearl ho-So.....	Logan
Petersen, Iven ed-F.....	Newton	Richards, Ralph a-F.....	Malad
Petersen, John D. as-So.....	Salina	Richards, Stella e-F.....	Fielding
Petreson, Leland W. a-J.....	Hyrum	Richards, Stella SS.....	Sterling, Colo.
Peterson, Marie ed-So.....	Smithfield	Richards, Sterling J. a-So.....	Logan
Peterson, Mary SS.....	Smithfield	Richardson, Margaret as-F.....	Smithfield
Peterson, Maud SS.....	Salt Lake City	Richardson, Rufus D. SS.....	Provo
Peterson, Norma c-F.....	Smithfield	Richins, Dallas ed-F.....	Echo
Peterson, Onetta SS.....	Preston, Idaho	Richins, Pay E. c-F.....	Coalville
Peterson, Oscar J. SS.....	Salt Lake City	Richmond, Hamilton ed-F.....	Payson
Peterson, Ottis P. as-F.....	Logan	Ricks, Edna SS.....	Rexburg, Idaho
Petersen, Ruth E. ho-F.....	Logan	Ridd, Eugene e-F.....	Salt Lake City
Peterson, Spencer a-So.....	Ogden	Riddle, Harvey SS.....	Fort Collins, Colo.
Peterson, Vadal SS.....	Huntsville	Rigby, Gwendolyn ed-So.....	Newton
Peterson, Waldo J. a-F.....	Brigham	Rigby, Murland as-J.....	Newton
Pett, Helen as-So.....	Eureka	Rinderknecht, Elmer e-F.....	Providence
Petty, Rachel SS.....	Cedar City	Rippon, Stanley Chas. e-F.....	Coalville
Phelps, Inez SS.....	Montpelier, Idaho	Ririe, Lettie as-J.....	Ogden
Phillips, Wendell C. c-J.....	Kaysville	Ririe, Walter F. a-F.....	Lewiston
Pickett, Glenn SS.....	Emporia, Kansas	Ritchie, G. Wendel c-S-SS.....	Logan
Pinnock, Ellis SS.....	Salt Lake City	Riter, John R. e-G.....	Logan
Pitkin, Leonard e-V.....	Logan	Riter, Kersey C. as-F.....	Logan
Plowman, Melba ed-F.....	Smithfield	Roaf, James a-F.....	Rolapp
Pond, Grace as-F.....	Logan	Robb, Wayne A. as-F.....	Idaho Falls
Pond, Preston W. c-So.....	Logan	Robbins, Alta Mae as-F.....	Logan
Porter, Constance SS.....	Ashton, Idaho	Robbins, Raymond as-F.....	Logan
Porter, Gertrude SS.....	Rexburg, Idaho	Roberts, Myrl c-F.....	Brigham
Porter, Ruth SS.....	Worland, Wyo.	Roberts, Wilford D. e-F.....	Afton, Wyo.
Poulter, Vernon C. c-F.....	Logan	Robins, Allan Day a-F.....	Kaysville
Powelson, Edith ed-F.....	Brigham	Robinson, L. Ray a-G-SS.....	Logan
Power, Zona ed-F.....	Ogden	Robinson, Fern ho-J.....	Logan
Pratt, Claude H. c-F.....	Hinckley	Robinson, Frank e-F.....	Coalville
Preston, Kathryn c-J.....	Logan	Robinson, Mabel SS.....	Baker, Nevada
Preston, Thomas W. SS.....	Logan	Robinson, Merla ed-F.....	Coalville
Prestwich, Berg as-So.....	Moroni	Robinson, Ray S. as-F.....	Logan
Price, Lessie W. SS.....	Paris, Idaho	Rogers, Ann as-F.....	Richfield
Price, Wilford SS.....	Paris, Idaho	Rogers, Harry W. as-So.....	Salt Lake City
Prince, Mrs. Rhoda R. SS.....	Hurricane	Rogers, LuDean as-So.....	Lewiston
Prisbrey, M. Grant SS.....	St. George	Rogers, Noah e-J.....	Fillmore
Puffer, LeRoy a-F.....	Beaver	Rogers, Roma c-V.....	Lewiston
Pulley, Orion S. SS.....	Logan	Rogers, Theodore c-S.....	Fillmore
Purdy, Frank H. e-S.....	Ogden	Rogerson, Della ed-So.....	Salt Lake City
Quinney, Bernice ed-F.....	Logan	Roland, Lewis a-S.....	Salina
Quinney, John SS.....	Logan	Rollins, Charles W. e-F.....	Greenville
Rallison, Martha ed-So.....	Logan	Rollins, J. Clarence e-S.....	Beaver
Rampton, G. Henry SS.....	Syracuse	Romney, E. L. G-SS.....	Provo
Rampton, Henry H. a-S.....	Bountiful	Rose, Cleone ed-So.....	Logan
Rawlins, Fern SS.....	Logan	Rosengreen, Bernice L. ed-F.....	Logan
Reading, Harold E. a-So.....	Logan	Rosengreen, George as-S.....	Logan
Reading, Keith c-F.....	Centerville	Roswear, Geraldine SS.....	Ruth, Nevada
Reading, William J. a-So.....	Logan	Rowe, Gus F. c-So.....	Eureka
Rees, Doyle c-F.....	Benson Ward	Rust, Alyce ed-F.....	Logan
Reese, Lorin as-F.....	Logan	Ryan, Donald as-F.....	Heber
Reeves, Vincent ed-So.....	Brigham	Ryan, Jos. E. SS.....	Larimer, Colo.
Remund, Clive a-F.....	Midway	Salmon, Nelson Hunter as-J.....	Logan

Sanders, Newell SS.....Kaysville
 Sandgren, George E. SS.....Provo
 Sanford, Susie Helen SS.....Delta
 Sant, Orella ed-So.....Logan
 Sant, Thelma ed-So.....Logan
 Santistevan, Bailey J. SS. Bingham Canyon
 Saxer, Alton H. as-J-SS.....Logan
 Schaer, Wilma SS.....Ogden
 Schaub, Conrad E. e-F.....Logan
 Schaub, Geneva as-So.....Logan
 Schaub, George Wesley as-S.....Logan
 Schaub, Phillis ed-F.....Logan
 Schaub, Vesta SS.....Logan
 Schiess, Hazel R. ed-F.....Providence
 Schmidt, Leonora C. ed-F.....Providence
 Schmidt, Theodore e-V.....Aberdeen, Idaho
 Scholes, Wallace B. as-So.....Logan
 Schow, Howard E. e-So.....Preston, Idaho
 Schow, Iris ed-F.....Mantua
 Schriener, William L. e-F. Salt Lake City
 Scorup, Stena SS.....Salina
 Scott, Ida V. SS.....Logan
 Scott, James D. as-F-SS.....Logan
 Scott, Minnie Elizabeth ho-S.....Salt Lake City
 Seoville, Therma Catel as-J.....Ogden
 Seamons, Vernal G. as-J.....Hyde Park
 Seely, Leola ed-F.....Rosette
 Senff, Claire SS.....Buffalo, Wyo.
 Sessions, Alice as-So.....Farmington
 Shaw, Alfred e-So.....Paradise
 Shaw, Byron J. as-So.....Paradise
 Shaw, Constance M. ho-J.....Ogden
 Shaw, Elizabeth SS.....Ogden
 Shaw, May ed-F.....Hailey, Idaho
 Sheffield, Carl N. c-So.....Ogden
 Shepard, Florence L. as-J.....Logan
 Shepard, Louise SS.....Logan
 Shields, Kenneth c-F.....Tooole
 Shipley, Merlin c-So.....Logan
 Shrivess, Thelma ed-F.....Logan
 Shull, Clarence W. SS.....Grand Valley, Colo.
 Shumway, Priscilla SS.....Chandler, Ariz.
 Shurtz, Oneta K. SS.....Escalante
 Simonsen, Elva ho-F.....Brigham
 Simpson, Ardelle ho-J.....Logan
 Sims, Kenneth J. a-So.....Garden City
 Sisco, Raymond ed-F.....Logan
 Sisher, Charles E. SS.....Cherokee, Kansas
 Skbelund, Luna c-So.....Logan
 Skanchy, Antone L. as-S.....Logan
 Skanchy, Leland W. as-S.....Logan
 Skanchy, Miriam R. ho-S.....Logan
 Skanchy, Sigrid A. as-J-SS.....Logan
 Skidmore, D. R. SS.....Brigham
 Skidmore, Kathryn as-So.....Logan
 Skidmore, Katie SS.....Logan
 Skidmore, Louise ho-F.....Logan
 Skinner, Dorothy SS.....Gardnerville, Nev.
 Skinner, Wilbur E. SS. Gardnerville, Nev.
 Slaugh, Forrest S. SS.....Logan
 Slaugh, Kimball G. SS.....Vernal
 Slaugh, Theresa SS.....Logan
 Smart, Gene c-So.....Logan
 Smart, Theron as-So.....Sandy

Smedley, Delbert W. ed-F.....Bountiful
 Smith, Byron J. SS.....Logan
 Smith, C. E. SS.....Garland
 Smith, Clara K. SS.....Ogden
 Smith, Clarissa ho-F-SS.....Logan
 Smith, Clifton H. as-S-SS.....Hooper
 Smith, Dewitt C. as-So.....Pleasant Grove
 Smith, Dorothy c-F.....Logan
 Smith, E. Gordon SS.....Ogden
 Smith, Farrell R. SS.....Logan
 Smith, Gladys ed-So.....Smithfield
 Smith, Gwendolyn as-S-SS.....Logan
 Smith, Harold c-F.....Logan
 Smith, Ivy L. ho-J.....Logan
 Smith, J. Holmes c-F.....Logan
 Smith, J. Rennell e-So.....Logan
 Smith, James Sermon c-S.....Logan
 Smith, Kate as-F.....Logan
 Smith, Leslie Frank e-V.....Pleasant Grove
 Smith, Lewis C. as-G.....Smithfield
 Smith, Lucille ho-F.....Logan
 Smith, Lyman SS.....Logan
 Smith, May M. SS.....Hooper
 Smith, Merlin Wm. as-F.....Logan
 Smith, Myrtle SS.....Salt Lake City
 Smith, Myrtye Constance as-J.....Logan
 Smith, Pearl ed-So.....Brigham
 Smith, Phyllis c-F.....Smithfield
 Smith, Retta ho-J.....Pleasant Grove
 Smith, Robert N. c-F.....Logan
 Smith, Ronald as-J.....Logan
 Smith, Ruth B. ho-F.....North Logan
 Smith, Ruth c-F.....Logan
 Smith, Wendell E. c-V.....Logan
 Smith, William as-J-SS.....Logan
 Snow, J. H. SS.....Salt Lake City
 Snow, M. Helen ed-F.....Logan
 Sorensen, DeVola as-J.....Malad
 Sorensen, Edna ho-S.....Logan
 Sorensen, LaVell as-J-SS.....Smithfield
 Sorensen, Louis Wm. c-F.....Logan
 Sorensen, Sadie ed-F.....Cornish
 Sorensen, Stella as-J-SS.....Smithfield
 Sorensen, Uarda ed-F.....Mantua
 Sorensen, Wesley A. c-J.....Logan
 Spackman, A. C. as-F.....Richmond
 Sprague, Georgia M. SS.....Cicero, Ill.
 Sparks, Alfred W. a-F-SS.....Smithfield
 Sparks, LeRoy M. c-S.....Newton
 Spencer, Fannie as-So.....Salt Lake City
 Spencer, Glen K. as-F.....Logan
 Spencer, Virginia SS.....Escalante
 Sperry, Mildred ed-F.....Nephi
 Speth, Fred e-V.....College Ward
 Spillman, F. L. e-V.....Logan
 Sprouse, LaVon e-F.....Garden City
 Squires, Henry B. SS.....Logan
 Squires, Leeta McCune SS.....Ruth, Nevada
 Squires, Rulon B. c-V-SS.....Logan
 Stallings, Chester e-F.....Ogden
 Stallings, Mildred SS.....Eden
 Standrod, Ada L. as-So.....Logan
 Stanger, Glenn S. c-J.....Logan
 Stanger, Keith c-F.....Idaho Falls
 Stark, Arvil L. a-J.....Salt Lake City

Starr, Courtland P. a-F	Springville	Telford, Brigham as-F	Lewiston
Starr, Nora c-So	Springville	Thain, Afton as-F	Logan
Starr, Stewart e-S	Springville	Thain, H. Henry c-S	Logan
Stayner, Irene SS	Farmington	Thain, Theodore E. c-S	Logan
St. Cyr, Edith L. SS	Jarbridge, Nev.	Thatcher, Lettie SS	Logan
Steffen, Hyrum a-So	Brigham	Thatcher, Martha SS	Logan
Stekol, Sam A. a-F	Harbin, China	Thatcher, Moses as-So	Logan
Stephens, Gwenevere as-So	Logan	Thatcher, Theodore O. as-V	Logan
Stephens, Melvin J. a-J	Montpelier, Idaho	Thayne, Clifton E. a-So	Sandy
Stevens, Brigham E. a-V	Blanding	Thayne, Delbert O. a-F	Sandy
Stevens, Helen E. as-S	Ogden	Theurer, Lloyd M. c-S	Providence
Stevens, Margaret as-F	Ogden	Theurer, Ray a-F	Providence
Stevenson, M. L. SS	Ogden	Thomas, Alvin SS	Samaria, Idaho
Stewart, Dorothy Ann ho-F	Provo	Thomas, Eleanor as-F	Logan
Stewart, James Z. c-S	Logan	Thomas, Elizabeth SS	Ogden
Stewart, Lester c-F	Salt Lake City	Thomas, Floyd SS	Ogden
Stewart, Kingsley c-J	Logan	Thomas, Joseph M. as-So	Logan
Stewart, Perry c-F	Logan	Thompson, Fontella ed-F	Richmond
Stewart, Valoise SS	Logan	Thompson, James D. as-F	Garland
Stirland, LaGrand L. a-S	Providence	Thomson, Wendell J. as-G-SS	Richmond
Stirland, Verda ed-F	Providence	Thornley, Gwendella SS	Smithfield
Stoddard, Alice ho-V-SS	Logan	Thornley, Melba M as-J	Kaysville
Stoddard, Fred G. e-So-SS	Logan	Thornley, Willard D. as-So	Smithfield
Stout, A. L. SS	Logan	Thorpe, Everett a-V	Providence
Stout, Beulah ed-So	Logan	Thorson, Edna ho-S	Bear River
Stout, Lyman SS	Logan	Thulin, H. W. SS	Idaho Falls
Stratford, Richard C. c-S	Logan	Tingey, Delar as-F	Logan
Stratton, Ervin a-F	Hinckley	Tingey, Vance H. ed-J	Brigham
Stratton, Mary R. ed-F	Brigham	Tingey, William W. e-F	Centerville
Stringham, Martha ho-F	Bountiful	Tingey, Willis e-S	Logan
Stringham, Ruby ho-S	Bountiful	Tippets, Hugh M. as-F	Cowley, Wyo.
Stuart, Melba ho-J	Wellsville	Titensor, Elnor Bishop ed-So	Logan
Stuart, William a-S	Wellsville	Titensor, Roscoe e-S	Logan
Stucki, Clarence e-F	Logan	Toolson, Adrian V. c-F	Smithfield
Stucki, E. Woodruff SS	Paris, Idaho	Tolman, Loa J. SS	Murtaugh, Idaho
Sutherland, Rex SS	Salt Lake City	Tremelling, Edwin S. e-F	Garden City
Sutton, Damaris SS	Logan	Tuckfield, Maud SS	Salt Lake City
Suzuki, Motosuke a-S	Salt Lake City	Tuddenham, Evelyn ho-J	Newton
Sweet, Julia G. SS	Fair Oaks, Calif	Turner, Darrow a-F	Heber
Sweeton, Orpha c-J-SS	Garland	Turner, LaRue SS	Spanish Fork
Swendson, Hortense as-So	Logan	Turley, Bernice A. as-F	Logan
Swendson, Howard J. e-F	Richmond	Turley, E. C. SS	Chihuahua, Mex.
Swenson, D. A. SS	Logan	Tyson, Gladys as-S	Brigham
Swenson, Reed K. SS	Provo	Tyson, Virginia c-F	Logan
Swenson, Roland M. c-F	Logan	Uhler, Othelia SS	Omaha, Neb.
Swinyard, Chester A. as-S	Logan	Underwood, James T. c-J	Kaysville
Swinyard, Ewart A. as-F	Logan	Urie, Mary SS	Cedar City
Swinyard, W. O. SS	Logan	Valentine, DeLone E. ed-So	Brigham
Syme, Florence SS	Logan	Valentine, Erma SS	Brigham
Taggart, Frank S. c-F	Morgan	Vanderhoof, Kenneth J. ed-So	Ogden
Tanner, Mrs. Arthur E. SS	Logan	VanNice, Ann SS	Chicago, Ill.
Tanner, H. B. SS	Salt Lake City	Van Orden, Hazel ed-F	Logan
Tanner, Howard c-So	Milford	Vernon, Clinton D. as-S	Logan
Tanner, L. C. SS	Salt Lake City	Vernon, Frances T. ho-So	Logan
Tanner, Vivian as-S	Logan	Vickers, Maurine L. as-So	Nephi
Tarbett, LeeOra as-So	Logan	Villett, Helen ed-F	Lewiston
Tasso, Eleonora J. ho-F	Clifton, Idaho	Wade, Ellis M. ed-J	Pleasant View
Tate, R. Sharon c-F	Tooele	Wadley, Reif a-J	Pleasant Grove
Taylor, Janet SS	Ogden	Wagstaff, Evangeline ho-S	Mt. Pleasant
Taylor, Lawrence c-F	Driggs, Idaho	Wahlquist, Keith SS	Ogden
Taylor, Milton e-F	Logan	Wakley, Dorothy as-S	Logan
Taylor, Nelden A. a-So	Payson	Waldron, Nello B. c-J	Tremonton
Taylor, Owen A. a-So	Blackfoot, Idaho	Walker, Calvin e-J	Pleasant Grove
Taylor, Truth as-J	Willard	Walker, Clive S. a-F	Murray
Tebbs, Hazel ho-F	Panguitch	Walker, LeGrand a-J	Pleasant Grove

Walker, Leo R. SS.....	Garland	Williams, Etta G. SS.....	Chicago, Ill.
Walker, Lucille SS.....	Pleasant Grove	Williams, Howard W. as-So.....	Kaysville
Walker, Nora SS.....	Layton	Williams, Joseph W. e-V.....	Morgan
Walker, Rulon A. as-J.....	Logan	Williams, Leo ed-F.....	Logan
Walker, Thomas A. e-F.....	Pleasant Grove	Williams, Leonard a-F.....	Monroe
Walker, Vance SS.....	Mendon	Williams, Lewis M. SS.....	Sugar City, Idaho
Walker, Virginia SS.....	Pleasant Grove	Williams, Walter T. SS.....	Samaria, Idaho
Walker, Wendell H. as-V.....	Holliday	Williamson, David O. as-F.....	Pleasant Grove
Wallace, Bruce as-J.....	Logan	Willis, Mabel SS.....	Salt Lake City
Walters, Barbara M. SS.....	Wellsville	Willis, Belle Olive ed-F.....	Lehi
Walter, H. Glen SS.....	Richmond	Willis, Mary O. ed-G.....	Logan
Walther, William C. e-S.....	Logan	Willoughby, Vern a-F.....	Coalville
Walton, Bruce as-J.....	Centerville	Wilson, Edna as-J.....	Logan
Warburton, B. Eugene c-So.....	Salt Lake City	Wilson, Harriet M. SS.....	Fallon, Nevada
Ward, George a-F.....	Malad	Wilson, LeMoyné a-G.....	Logan
Ward, George D. e-V.....	Logan	Wilson, Verla c-F.....	Logan
Ward, Orville M. e-V.....	Logan	Wilson, Wilburn J. e-G.....	Logan
Ward, Owen W. as-J.....	Willard	Winn, David S. a-G.....	Nephi
Ward, Reuben A. as-F.....	Logan	Winn, Elva as-So.....	Smithfield
Ward, Vera ho-F.....	Logan	Winn, Jack C. as-F.....	Nephi
Wardle, Amy SS.....	Sandy	Winn, Stella SS.....	Smithfield
Wardle, Hazel SS.....	Sandy	Witt, Willmuth SS.....	Heber
Wardleigh, Virginia as-S.....	Ogden	Wixom, Calvin a-J.....	Logan
Warner, Charlotte SS.....	Grace, Idaho	Wixom, Earl P. as-V.....	Logan
Warren, Rex a-F.....	Price	Wixom, Kenneth as-V.....	Logan
Washburn, Felicia M. as-V.....	Venice	Wood, Edith A. as-So.....	Trenton
Washburn, Newel c-F.....	Venice	Wood, Gordon c-J.....	Nephi
Watkins, C. SS.....	Brigham	Woodhouse, Jesse N. SS.....	Bingham Canyon
Watkins, Dorothy ho-J.....	Logan	Woodside, Howard SS.....	Logan
Watt, Lester L. SS.....	Grinnell, Iowa	Woodward, Gladys ho-S-SS.....	Logan
Weaver, Geneva SS.....	Monpelier, Idaho	Woodward, Marlow C. a-J.....	Logan
Webb, Clarice as-F.....	Richmond	Woolley, Erna ho-So.....	Vernal
Webb, Delmar H. as-So.....	Richmond	Woolley, Ray SS.....	Grantsville
Webb, Florence M. ho-J.....	Richmond	Woozley, Mary ed-S.....	Salt Lake City
Webb, Marjorie ed-F.....	Idaho Falls	Worley, Erma SS.....	Logan
Webb, Sherwin O. as-F.....	Richmond	Worthington, Thomas Glen as-J.....	Nephi
Webster, Daisy A. SS.....	Blackfoot, Idaho	Wright, Beatrice SS.....	St. David, Arizona
Weber, Walter A. SS.....	Chicago, Ill.	Wright, Chester a-So.....	Hinckley
Weeks, Lawrence G. as-So.....	Smithfield	Wright, Edna ho-So.....	Logan
Welch, Golden M. as-So.....	Logan	Wright, Lucille ho-F.....	Hyrum
Weiling, Mable ho-F.....	Brigham	Wright, Lula ho-F.....	Hyrum
Wennergren, Hazel ed-F.....	Logan	Wursten, Aldena M. ed-So.....	Logan
Wennergren, Lorraine SS.....	Logan	Wursten, Leah M. ed-F.....	Logan
West, Anna ho-So.....	Afton, Wyo.	Wyatt, Elsie ho-J.....	Wellsville
West, J. Wallace SS.....	Salt Lake City	Wynne, Roy SS.....	Chadron, Neb.
West, Marjorie ho-F.....	Logan	Yamanouchi, Yoshihiko, a-S.....	Salt Lake City
West, Roy c-S-SS.....	Logan	Yates, Willard M. a-F.....	Brigham
Weston, Ramona as-F.....	Laketown	Yeates, Alexander e-F.....	Logan
Whatcott, Cle-mouth L. SS.....	Corinne	Yeates, I. Marvin c-S-SS.....	Logan
Wheeler, Thora as-F.....	Lewiston	Yeates, Kenneth as-F.....	Logan
Whipple, LaRue SS.....	Sunnyside, Nevada	Yeates, Myrtle SS.....	Logan
White, Steve R. a-F.....	Ogden	Yorgason, Ruby e-F.....	Logan
Whitehead, Vanona ed-So-SS.....	Logan	Young, Ivan W.....	Ephraim
Whiting, Ronald C. a-F.....	Springville	Young, John A. SS.....	Cedar City
Whittle, Perry ed-So.....	Logan	Young, Anna M. SS.....	Erie, Penn.
Whitworth, Ada SS.....	Cuyohoga, Ohio	Younker, Chester D. a-S.....	Logan
Whornham, George SS.....	Beaver	ZoBell, Cluade as-G-SS.....	Logan
Wilcox, Doris c-F.....	Ogden	ZeBell, Ira Deloss a-S-SS.....	Logan
Wilkins, LaBelle ed-F.....	Logan	Zollinger, Bertha c-F.....	Logan
Williams, Catherine M. ed-F.....	Bingham Canyon	Zollinger, Floyd e-V.....	Logan
Williams, David E. SS.....	Price	Zollinger, Ruth E. ho-S.....	Providence

SUMMARY OF ATTENDANCE—1927-28

Rank	Agriculture Men	Engineering Men	Arts & Science Men	Arts & Science Women	Education Men	Education Women	Commerce Men	Commerce Women	Home Econ. Women	Totals
Graduates	16	2	8	5	3	1	4	2	2	43
Seniors	21	14	28	18	17	10	38		22	168
Juniors	14	11	23	25	5	4	23		21	126
Sophomores	50	17	63	56	5	50	24	15	42	322
Freshmen	74	53	83	56	15	82	58	36	36	493
Total Collegiate.....	175	97	205	160	45	147	147	53	123	1152
Vocational	9	28	7	7	1	1	7	5	5	70
Totals	184	125	212	167	46	148	154	58	128	1222
Summer Quarter 1927.....	500									
Less Names Repeated—Men.....	42									
Womer.....	41 83 417									
Net Total Resident Enrollment.....	1639									

SUMMARY OF 1927 SUMMER QUARTER REGISTRATION

	Men	Women	Total
Undergraduates.....	176	218	394
Graduates	78	28	106
	254	246	500
Correspondence Department Enrollment—			
Men	202		
Women	175		377
Extension Classes—			
Men	46		
Women	34		80
Less Names Repeated—			457
Men	105		
Women	69		174
Total, Less Names Repeated			283

ENCAMPMENT AND SHORT COURSES

*Farmers' Encampment—Men.....	952	
Women.....	1098	2050
Club Leaders' Training School—Boys.....	39	
Girls.....	63	102
Scout Masters' School—Men.....		65
Adult Leaders' Training School—Women.....		41
Total Registration at Encampment and Short Courses.....	2258	

*In addition there were 1532 children.

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